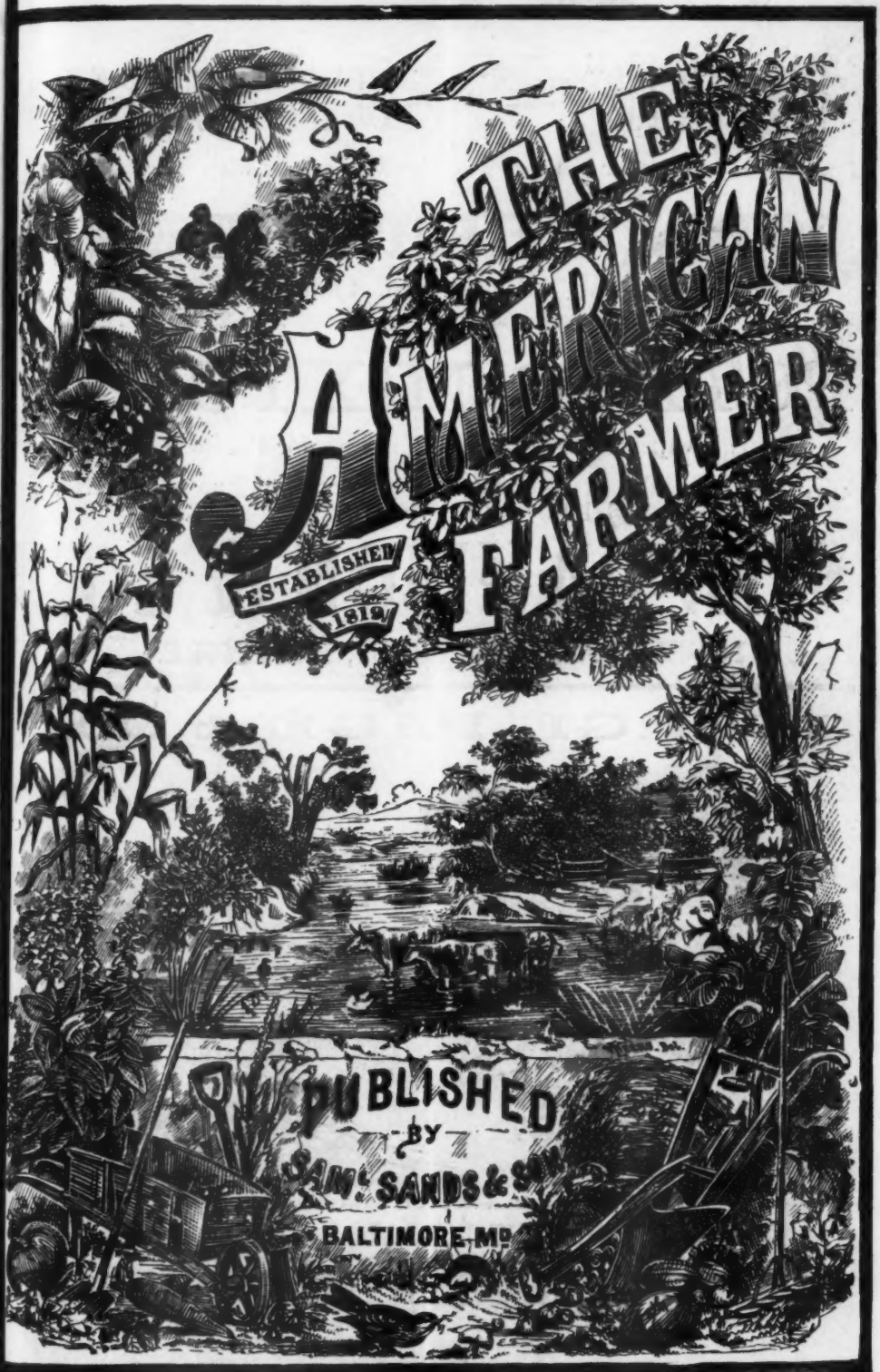

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THE

AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

PUBLISHED BY SAML. SANDS & SON, BALTIMORE, MD.

VOL. IX.—NO. 3.] MARCH, 1880. [NEW SERIES.

Feeding Stock Essential to Successful Farming.

If a man had an account in bank, and ten thousand dollars to his credit, and were to check upon that account from time to time without making any deposits, it is evident the result would be the exhaustion of the account and the dishonor of his checks. Just so with the farmer: the most ordinary observation should teach him that if he continues constantly to remove crops, and applies nothing in return, his soil will soon be exhausted. The farmer has his capital invested in land, stock and implements. The money for the support of his family and the education of his children must be derived from it: hence the practical question, how shall he keep up his improvements, support his family and increase the fertility of his acres at the same time? "Yet to this he must come," for if he exhausts his lands, though he may flourish for a season, he and his children must suffer in the end. He certainly cannot accomplish this by raising corn, wheat, rye and oats and timothy hay, and sending them to the city for sale,—the only compensation made to the land being a light dressing of artificial manure, drilled in with the wheat and pretty well exhausted by that crop, and a clover crop once in the rotation and often cut off and sold. He might easily accomplish the task, however, by feeding most of his crops to cattle and sheep, or keeping cows and selling milk and butter; returning to his soil, in the manure of his stock, the most valuable constituents of his crops, and selling only the hydro-carbons, elements easily reproduced by green crops turned under—sunshine, air and rain, which cost nothing. "All flesh is grass," says the Psalmist, and this is true, for all animals are nourished by the vegetable kingdom. In the animal tissues, blood, muscle, brain and bones, we find certain elements always present, viz: carbon, hydrogen, oxygen, nitrogen, chlorine, lime, potash, soda, magnesia, silica, phosphorus, sulphur, iron and manganese. If these elements are the necessary and invariable constituents of animals, they must, of course, be found in the vegetables on which they feed, and they, in turn, must get them from the soil or atmosphere; and as the soil is only the debris of rocks, whose decomposition has been going on for countless ages, and the rocks themselves must all have come from the crust of the earth, the cooled outer layer of this ball of fire on which we live, we are forced to the conclusion that the eternal granite is the primary source of all. It does, indeed, contain all the solid ingredients mentioned above,—the gaseous being derived from the atmosphere. But it is not sufficient to have these elements in the soil,—we must have them there in a soluble state. Vegetables have no power to dissolve the rocks and take from them the substances necessary for their support: this necessary food must be presented to the spongioles, the absorbing mouths of the roots, in solution, or they cannot enter. Most all soils have within them the ingredients necessary for the nutrition of crops, but the soluble matter soon becomes exhausted by being taken up as food for crops, which crops being removed, when grown, necessarily impoverish the soil. To keep up the fertility, then, we must restore the soluble ingredients as fast as removed, or we must await the slow recuperative processes of nature—the process by which they were first formed. The Creator takes no note of time in his operations; and when the problem was to fit this earth for the support of animals, he began by first calling forth the lowest order of vegetables, the lichens, lycopodiums, &c. Their decay provided the means of support for other families, which in their turn prepared the way for other and nobler genera, and so on by a constant repetition of the process, until the means of support for animal life were ample,—the constant decay of vegetable matter enriching the soil and filling it with soluble salts. And when animals were created the process still went on, for they cousumed the vegetables; and their manure, their bones and carcases returned again to the mother earth, and thus the same round went on continually, the same identical atoms being constituents now of the vegetable and again of the animal tissues, and returning in each case to the soil.

If we would accomplish anything as farmers we must imitate this process of nature. We must sow and plow under clover, or feed it to cattle and apply manures. For thousands of years, perhaps for millions, nature had been improving the soils around here when our ancestors took possession. The earth groaned under the heavy forests, and when they were removed crops sprung up and matured almost spontaneously: no blight, no disease, because no starvation. They exhausted the soluble matter in the soil; and when they would no longer bring corn, turned them out into old fields, and moved West to repeat the process.

As far as we know matter is eternal, and we can no more destroy an atom than we can create one; but what we can do (and we too often accomplish it) is to put it where it will be of no use to us—in the sewers of our neighboring city and thence into the ocean. Look, for instance, at our rotation: we grow a crop of clover, and in the heat of summer mow it off the ground as close as we can cut it, leaving the roots and soil exposed to the burning rays of the sun, evaporation going on as fast as a long summer day can hasten that process. We save the hay and store it in the barn, and when the cows in and around the city get hungry we send it in and sell it, often for very little more than will pay the cost of harvesting and marketing it, and all its rich freight of valuable salts is lost forever to the farm. Suppose we had suffered the crop to remain,—(it would have fallen on the ground, covering and protecting it, and from its roots a second crop would have sprung up and fallen, followed by a third, and even a fourth crop, covering the ground so thick as to prevent entirely the process of evaporation, retaining the moisture in the soil to assist the chemical process of decomposition,)—would not the increased fertility of the soil have paid you better than the few dollars received for the labor of cutting and marketing it? If, however, we had fed it to stock on the place, converting it into butter or fat, we should have received more money; and as fat is only a hydro carbon, merely air and water, we should have returned to our land, in the manure, all the valuable particles. Let us go on with the rotation. We plow down the clover sod (often when only one year old; it would be twice as valuable if kept two) and put it in corn, the most exhausting of all crops. Of this, perhaps, a little is fed to the cows which supply the family with milk and butter, to the horses that do the work of the farm, and to the pigs that furnish your meat; but every grain that can be saved and spared by the closest management is sold, and away goes not only the phosphates and alkalies, in the grain itself, but that still larger amount which the summer rains washed from your mellow hillsides, carrying with it the vegetable matter which the decay of the clover sod had left to enrich your fields—all gone to town; the corn down the turnpike, the leach and wash down the branches to the bay. I have heard it said that when a hog tries to swim he manages to keep himself afloat, but cuts his throat at every stroke he makes; and I never see a man selling corn but that I think of a hog swimming. If we must raise corn (and I admit that we must, there is no substitute for this king of the grass) let us remember how much it costs and raise all we can in our rotation; but feed it to stock on the place. If you have not enough to consume it, buy a lot of steers or sheep; they will eat it and select the carbon and hydrogen and oxygen required to make the fat, and leave your valuable phosphates and alkalies to be returned to your farm in the manure. I might go through the rotation and show you that in each crop the process here described was repeated, and in all the same depletion of the soil went on. But I need not: you can all trace the process in your own minds. I have only to remark, if any of you feel tempted to buy artificial manures, to save your money and invest it in feed and cattle; then you will have the satisfaction to see your lands rapidly improve, if you carefully husband and apply the manure.

J. T. COUNCILMAN,
Lecturer Garrison Forest Grange.
Baltimore Co., Md.

The Cultivation of Roots.

Messrs. Editors American Farmer:

Having read your paper for some years, and gained that which was of much service to me, I thought I would try and return the favor in *part* by giving some useful hints on root culture.

I have grown annually from 8 to 10 acres in *parsnips and carrots* for market and mangels for feeding, and find that they are not only profitable in themselves, but leave the land in the best condition for wheat and grass, which follow in the rotation.

NOW FOR THE METHOD.—The ground (clay loam) is plowed in the fall deeply with a 3-horse plow, and in this condition it remains all winter. Early in spring, when ground is in good order to work—say last of April or first week in May—harrow the ground to make it level; then cross plow; spread 12 two-horse cart-loads of well-rotted rich manure from the cart; *harrow; cross harrow; roll;* harrow once more and *roll;* and then commencing on one side of field with a one-horse plow, throw two furrows together, 20 inches apart, if for carrots; if for mangels, 27 inches. What we call back-furrowing is what we want. Men follow, break down the ridges, and then the seed is drilled in immediately, at the rate, per acre, of 5 or 6 lbs. for carrots and parsnips, and 4 or 5 lbs. for mangels. We aim to get the seed in whilst ground is *fresh.*

VARIETIES.—Long-Orange *Carrot*, Hollow-Crown *Parsnip*, Yellow-Globe *Mangel*, I have found to produce the largest and best paying crops after many trials. Get seed from a reliable seedsman, and after you get the kind you want select medium-sized perfect roots whilst harvesting in the fall and put them away for seed, first *rubbing off* the tops so as not to bruise the crowns. Plant them out early in spring in rows 3 feet apart and 8 inches apart in the rows; keep clean; and when the seed is nearly ripe, which you can tell by seed turning yellowish-brown, cut out the *centre* shoot and hang up in a cool dry place to dry, and my word for it you will have the best of seed at a small cost. Fol-

low this method year by year and your seed will be better each season.

CULTIVATION.—When seed is up and shows the rough leaf, work with harrow-toothed cultivator and scrape as near the plants as you can, but don't disturb them. Every ten days or so work with a cultivator. Don't let a crust form on the ground, as that seriously checks the growth. After second working take your hoes, have them ground *sharp*, and chop out parsnips and carrots, letting them stand 4 to 5 inches; mangels 10 or 12 inches apart; boys then follow and thin out, leaving one healthy plant at the distances named.

By middle of October harvest your beets by throwing five rows together; top with sharp knife, but not too near the crown; cart them to your cellar and pile them as you would cord wood, but give plenty of ventilation.

What you can't put in cellar put on the ground, choosing a level place, making a pile about 5 feet wide and about 3 feet high, sloping it nicely on both sides; every 4 or five 5 ft. ventilate by tying several sticks together and set upright. First cover with 6 or 8 inches of dirt, but do not use straw, as they keep better without. As it grows colder increase the covering to 12 inches, and finally when severe weather sets in cover with 8 or 10 inches of straw, and you can get at your roots whenever you wish. After beets are put away we commence on carrots, and lastly on parsnips.

Take your two-horse sub-soil plow, and commencing on one side of the piece plow out every alternate row; men follow and pull out and throw in piles; then return and plow out the remainder. Top and pit the same manner as for beets, with the exception of making the pits much smaller, as they then keep *fresher*.

Our aim is to have carrots and parsnips handy, so we can get at them during the coldest weather, as these roots always command paying prices then.

I have now given you my method, not stating the cost per bushel, as manure and labor vary in different localities. The yield of parsnips and carrots is from 400 to 600 bushels per acre; mangels 600 to 800. Everything depends upon your being *systematic* and *thorough* in your work. If you are new at the business, try one-fourth of an acre and note the cost of *labor, time and manure*, and another year you can increase if it is profitable. Success in farming is summed up in one word: "thoroughness." F. S.

"Arlington," Md.

Farming in Queen Anne's, Md.

Messrs. Editors American Farmer:

A correspondent over the signature of "Centreville," in your February issue, gives quite a glowing, and, it may be hoped, an entirely accurate account of the progress of affairs in Queen Anne's county. He says "the farmers are much encouraged by the present prices of grain; they are satisfied with them, and have sold nearly all their grain *at home*—wheat at $1.55, corn at 58 cts." This is really pleasant and cheering news, it having been generally supposed that the majority of farmers had been compelled to sell their wheat before the large advance in prices occurred.

I fully agree with him that farmers are perceiving the necessity "of breeding and feeding cattle with more care," and that they will find it to their advantage to select pure-bred animals to improve their flocks and herds.

His comments upon the relative value of the different breeds may be open to discussion and criticism. In what he says of Devons producing a valuable class of work animals I entirely concur; and he might justly have added something in regard to their facility of fattening, as well as to the richness of their milk, if his predilections in favor of the Short-horn does not blind him to the value of other breeds. I think he will find many to differ with him in his estimate of the value of oxen. Perhaps his remark that by "the emancipation proclamation the ox was liberated from his burden to a large extent, as well as the negro, (as being too costly a mode of transportation,) the ox being fatted for the butcher, generally, instead of being made a beast of burden, and the mule supplies his place in the yoke," may not be very clearly intelligible, as it has not fallen under my observation to see the long-eared animals harnessed in that peculiar manner, unless to cure his inveterate propensity to trespass.

I also cordially unite with him in regard to the "butter fever." It is not profitable for every farmer to become a dairyman, and it may be doubtful whether more than the surplus beyond the wants of the family can, in the majority of cases, be profitably marketed. I feel quite assured that the class of cattle referred to as best suited for dairy products is not that best suited to the general farmer. He tells us this class of cattle "did not reign long: they poured out as fast as they poured in." On this point, I scarcely think his observation very accurate, for according to my judgment their type is still the predominant one as seen in most of the herds in this section of country.

After reviewing the classes as above, he comes to the Herefords, which he dismisses with the brief notice "that they were introduced; have only left their mark here and there, an oddity to behold—nothing more! These have even nearly ceased to exist, and the blood from the noble Short-horn is now being diffused through most of our best herds." Growing enthusiastic, he goes on to enumerate what he claims to be the advantages they possess, and winds up by announcing it as "a noticeable fact that high farming and Short-horns roll on together," and tells you, Mr. Editor, that should you visit Queen Anne's in 1880 you will "find her hills dotted by snow-white fleeces, whilst her meadows echo to the weighty tread of the beautiful roans and reds." All of which is very pretty and poetic, and it is hoped may be seen without either spectacles or the aid of the telephone.

I have a word to say in regard to Herefords, which "Centreville" so summarily disposes of. It is now nearly twenty years since I introduced them into this county, and I have yet seen no cause to regret it. Having had practical experience with a Short-horn herd of my own, and

closely observed herds both of that breed and of Devons among my neighbors and friends as the result of experience, I was led to look for some other class better adapted in my judgment to the wants of the average farmer. Twenty years ago the Short-horn was the predominating breed in this State. In that period it has been supplanted by others. To discuss the causes of his waning supremacy would be to open a wide field. It may be admitted that upon the rich blue-grass pastures of Kentucky, and the fertile plains of the farther West, and under favorable circumstances of warm stables to protect him from the rigors of winter and the noon-day heat of the summer's sun, there can scarcely be found a more noble animal; but unfortunately "high farming" has not yet "rolled on" so universally that he can adapt himself to the circumstances surrounding the ordinary farmer.

I would also take issue with "Centreville" in regard to the diminishing popularity of the Herefords. My own herd has increased to upwards of fifty head, notwithstanding large annual sales to both butchers and breeders, and an increasing demand from the latter class of customers, beyond my ability to supply. I might also refer to the large and beautiful herds of Col. Edward Lloyd, of Capt. Hardcastle and of Dr. C. H. Tilghman, of Talbot county; to those of the Hon. Geo. S. Spencer, the Mess. Hendrickson and others of Kent Co., as well as in other sections of the State, that instead of ceasing to exist and becoming an "oddity to behold—nothing more!" it is rather an "*oddity to behold*—nothing more!" that Centreville did not know of these facts.

Very respectfully,

WM. HENRY DE COURCY

Chester, Queen Anne's, Md., Feb. 13th, 1880.

A Cheap Fence.

Messrs. Editors American Farmer:

I noticed in your January number an article on fencing, and I heartily agree with the writer that the real cost of making and keeping fences is far beyond the general idea or estimation placed upon them. When I began farming, I found that I was scarce of fencing material, so I had to contrive some way to economize in fencing. I first tried trunnels under my fence, which saved me two or three rails to each panel. I found that was not sufficient to meet the emergency of the case, so I adopted another plan which works admirably, and is as cheap as a fence can be well built. Cut the rails the length to suit your convenience, cut the stakes seven feet long, so when one end decays the other can be turned down; the last end will last longer than the first. There are many trees or parts of trees which will not make rails or stakes; this I saw into trunnels one foot long. I use galvanized wire for caps, which cost half cent a panel before the advance in iron; it will not exceed a cent now.

Now you have the material, run your fence straight like a post fence, so you can work close and keep clean; bury the stakes firm and wire close; the closer you wire, so they will admit the rail, the better will be the fence; set a trunnel on an end between each stake, so that the first course will be six inches above the ground; after running the first course lay a trunnel between the stakes and run the second course; if the rails are large you will hardly need any trunnels; do the same with the other courses, keeping your fence as level as possible, and five rails will stop any stock which should be at large on a farm.

If carefully put up there will be but little difference between it and a post fence, and great saving in timber and time in preparing the material; and with the same-sized rails, the fence will be as tight, besides it shows economy and neatness, which, if I do not practice, I greatly admire on a farm as an indication of prosperity.

Yours respectfully, J. F. T.

Calvert Co., Md.

Subsoiling.

Messrs. Editors American Farmer:

A long and serious drought having prevailed in our country during the greater part of last season, the corn crop on tenacious soils with hard-bottomed subsoil suffered very much in consequence thereof. I should like to have the views of any of your readers who have had any experience in sub-soiling.

Theory argues strongly that if the above-described land be broken to the depth of the topsoil with an ordinary plow, followed immediately in its track by a subsoil plow to the depth of 10 to 12 inches, that in drought it will have absorbed enough moisture from a good rain that has saturated it to the depth broken to withstand the drought with success, and by the help of good manuring and proper cultivation to produce a much better crop than if the land were broken up in the ordinary way; and the subsoiling would also act as a drainage to the land, and in very wet seasons would be drier on the surface and enable the land to be worked sooner after a rain, because of the wet having sunk from the surface.

Yours truly,

Kent Island, Md., Jan. 27, 1880. E. C. L.

Our French Letter.

The Season in France.

Messrs. Editors American Farmer:

The terrible and unexceptional winter continues in all its intensity; there is nothing but wailings and gnashing of teeth from farmers as well as horticulturists, and the extent, not of damage, but of destruction, caused by the vigorous frost, cannot be ascertained till the return of spring. The alternations from thaw to congelation have told seriously on all low-lying or sloping lands, except those in pasturage; not only winter sowings, effected as these were under favorable circumstances, have been compromised, but the surface soil in many cases has been flooded away, all rivers having overflown their banks. Happy those who have meadows: they can realize the importance of the proverb, "whoever has hay has bread." The layer of snow did not prove a marked protection for the soil: it prevented the latter's heat radiating, but not the less acquired the temperature of the

surrounding air, like other substances. Insects do not appear to have suffered much; they have been detected burrowing deeper into the soil. The only effectual protection the latter acquired was where it was in grass. At present quite a Siberian temperature reigns in the absence of snow, and which is producing the ruin of cereal crops. The new year ushers in only miseries.

Experiments in Feeding Stock.

At the experimental farm of Hohenheim, M. Wolff has been occupied testing the digestive aptitude of the horse during rest and work. The animal selected received daily 13 lbs. of oats, 11 of meadow hay, 3 of wheaten straw and quarter of an ounce of salt, and the experiment lasted over five periods, of fourteen consecutive days each. The food was analyzed, as also the droppings of the animal, with accuracy. It results that no variation in muscular exertion either favored or checked the work of digestion. But the wants vary and augment with that increased exertion. The weight of the body reveals contradictions in respect to drink, being sometimes greater or less, and the opposite, following the quantity of water taken, but which quantity is ever larger in proportion to increased exertion. A diet of hay and beans gave similar results to the foregoing, revealing also that the more muscular action expended the more the animal diminishes in weight—or, in other words, uses its own substance. It was furthermore ascertained that the horse utilizes less perfectly meadow hay than ruminating animals, the difference in the case of sheep being twelve per cent. This is due to the raw cellulose being more rebellious to digestion in the case of the horse. The proteic and non-nitrogenized matters are digested equally well by both animals, but the raw fatty matters contained in lucerne hay, as well as in all forage, completely escapes digestion with the horse. The efficacy of chopped wheaten straw when mixed with uncrushed oats acts only a mechanical rôle in respect to the horse, by compelling a longer mastication and leading to a better impregnation of the mass with saliva, which react favorably on digestion. Beans and maize, when steeped, display no difference in point of digestion between the horse and the sheep. In conclusion, irrespective of the quantity of hay given, or the work exacted, the digestive power of the horse remains invariable.

Improvement in French Agriculture.

There are two chief agricultural societies in France: the Central and the National. The latter last year, assisted by the Minister of Agriculture, prepared a series of questions, addressed to the farmers at large, to be voluntarily and maturedly answered, and tending to ascertain the truth on the present state of the nation's husbandry and its kindred industries during a period of twenty years—that is, rural France betwen 1854 and 1860 compared with rural France of 1874 and 1880. The results are most interesting: the division of landed property keeps increasing, owing to the laws of succession, and large estates are becoming rarer. Properties of a mean extent, however, tend to develop; but the splitting up into very small lots is not augmenting. The production of grain has increased; laying the soil in fallow has diminished, and wheat is replacing rye, thanks to the use of lime, better manured and deeper-tilled soils. An augmentation in the breeding and fattening of cattle is recorded, as well as in poultry. Horses have been improved as well as sheep, but the latter is declining, a remark which also applies to pigs. The culture of beet is exceptionally prosperous; so would have been the vines only for the phylloxera. Yet in spite of the insect's ravages new vineyards are being planted. Forestry has proved profitable, as well as fruit-raising, and the manufacture of cheese on the coöperative principle has given brilliant results. During twenty years agricultural machinery and implements have been improved; threshing machines are most in request; reapers and mowers have multiplied; plows and harrows have been transformed; sowing machines make their way slowly; but horse-hoes, scarifiers, horse-rakes, choppers and crushers, from being curiosities, have become necessities. Fair progress has been made respecting stationary and movable engines; and while advance marks the employment of fertilizers, the tendency to improve farm-yard manure and economize the liquids of the out-offices is more prominent. The rate of wages has increased, as also the cost of feeding, but owing to the opening up of communications uniformity is growing between the general rates of salaries. As for the political wishes of farmers, those interested in grain production demand protection against American corn; the vine regions would like the vines of Spain and Italy to be less favored. There is unanimity that local taxation is becoming excessive, and that if the government declares it cannot artificially raise the price of produce, it ought to reduce the over-weighted imports.

Controversy about Super-Phosphates.

The French and Belgian chemists are at war with Germany respecting the use of soluble phosphates. According to the former, it is sheer waste of money employing sulphuric acid to dissolve guano, &c., because the free phosphoric acid once encountering lime, iron, alumina, &c., in the soil, unites and returns to its original state—that in which it is found in the natural phosphates employed so extensively in France and Belgium, but pooh-poohed in Germany.

Bee and Dog Laws in France.

According to the French code, the keeper of several bee-hives ostensibly engaged in the commercial production of honey is bound to keep the hives 110 yards distant from his neighbor's property, to lessen the danger to persons and the injury to fruit, &c. Also, if a dog devours the poultry of a neighbor on his premises the neighbor cannot kill the dog without being liable to damages; he must sue for the injury sustained.

Government Aid to Agriculture.

The interest a government takes in agriculture can be best tested by the sums voted to favor its improvement. In this sense, Prussia is second to no country in liberality: it accords fr.11¼ millions annually, and this does not in-

clude the part-subventions to agricultural schools and the agronomical departments of the leading universities. Belgium, which has a reputation for agricultural education, expends under this head but fr.195 yearly per 1,000 inhabitants; while Prussia allocates fr.452.

Sugar-Beet Culture in France.

The yield of beet sugar has been uniformly bad this year, more than realizing the worst suspicions. The density of the juice, too, was below the mean average—3.5 instead of 3.6. M. Pellet has analyzed the roots and leaves of beet brought from Silesia, and finds that to produce 2 cwts. of sugar the plant must absorb 29 lbs. of mineral matters from the soil, of which 6 will be potash, 2½ phosphoric acid, 3½ of lime, 8 potash and ¾ lb. nitrogen. To increase the richness of sugar, the soda and phosphoric acid, M. Pellet remarks, ought to be augmented. A deficiency of 2 lbs. of phosphoric acid would prevent the formation of 2 cwts. of sugar. When retained for seed the plant absorbs an abnormal quantity of alkalies; but these concentrate in the stem.

Miscellaneous Items.

The agricultural show, now on the point of opening in the Palace of Industry, promises to produce some new machines in the way of corn-crushers and hand-threshing machinery. Even a new reaper is spoken of.

In several *cantons* in France farmers have formed associations for keeping their machinery, &c., repaired and in working order, as well as being carefully stored when not required for use.

M. Leyrisson again states that he completely destroys couch grass by plowing the surface with a skim-plow two or three times when the grass appears, but never using the harrow. After which the deep roots of the weed will be found decomposed.

To detect artificial butter melt a portion; if it do not foam up well and bubble uniformly, while retaining the brown particles in its mass, it is spurious. F. C.

Paris, January 29.

Agricultural Experiment Stations, and a State Grain Elevator.

Messrs. Editors American Farmer:

Your subscribers here are much pleased with the last issue of the *Farmer*. The contributions of that noble old Roman, A. B. Davis, should have been written when digested, many years ago; when the State, ripe and rife for improvement, inspired, doubtless, by the eloquence and aspiration of the "mill-boy of the slashes," loaned—gave—her aid liberally, ostensibly for the full development of her inland frontier, yet guided by the self-interest of her then slow mart, overleaped the barriers of mountains and opened up the great Eldorado of the mighty West, and poured into her lap her boundless productions, to the exclusion and indifference of everything home-like, State-like, insomuch it really seems all that we have ever done is to aid and give away forever to foreign corporative and capitalistic interests; and these, having enough, have bound us hand and foot from doing anything afterwards that we should do, of any kind whatsoever.

I would wish Mr. Davis, while the Legislature is in session, to look to and forward, by his great talents, the two great enterprises of the living present, viz: experiment stations and a State grain elevator, provided this last can be sustained and managed to our utility. We of this peninsula want a storehouse of some kind, and a ready, efficient and cheap conveyance from your docks thereto. With this advantage our transportation charges would be greatly lessened. Our cereals would then be carried by steamers at greatly reduced rates; and when placed upon your wharves would not wait for some city demand, but be conveyed to a place of honest deposit and bring its present worth. But as it is they must be afloat in some slow, leaky mudshallop, to have anything of a resting place or discriminating deposit; and if the great business arm of her mart fails to perceive and provide for the wants of commerce and exchange, it is the State's duty and privilege to step forth and do the same, and in doing so she is protecting the grand result of their toil and industry, property,—all in all,—of value to her citizens. It is easy to count the cost of such facilities, but who can count the loss for the want of such?

As to experiment stations, it is hardly necessary at this day and time to say one word. They have proved of immense benefit and source of wealth to the State wherever instituted in enlightening the masses as to the wants, resources and capabilities of their soils; in the scientific treatment of a living—not a dead—organization; and not only that, but as general searchers and instructors in every department of utility, knowledge,—causing always a sure and safe application of means to purposes and ends, and so infusing and engendering a general spirit of inquiry into all things pertaining to the good and well-being of man.

Yours truly, GEO. HAYWARD.

Worcester Co., Md.

Dogs and Sheep.

Messrs. Editors American Farmer:

I wish to put before your readers some of my experience with sheep and their greatest enemy (the dog.) I have been endeavoring for the past six years to bring a flock of Cotswold sheep up to a certain standard of excellence, (which, by the way, I think all sheep-raisers should aim at,) but each time, when my flock is nearly perfect, dogs have gotten in and ruined all.

In 1876 a pack of fox hounds attacked my sheep in open day, and before they could be gotten off killed some eight or ten, and scared the others so badly that it was two years before they got over it and began to thrive. This past fall I sold off the last lot of sheep that were in the flock in '76, and kept a beautiful lot of young ewes,—twenty-six in number. They would compare favorably with any Cotswold sheep I have seen, and would soon have begun to lamb. I was congratulating myself on having them in such fine condition to meet the

necessary drain on the system at that time. With these bright prospects for my flock, I was well satisfied until two weeks ago, when some miserable dogs, belonging to my neighbors, got into them twice in one week, and literally tore the sheep to pieces,—twelve were killed and all the rest, but three, cut and torn so badly as to be perfectly worthless; only three out of twenty-six escaped unhurt. Now if that is not enough to make a man swear vengeance against all dogs I don't know what is.

Killing all the dogs in the county, however, would not pay for the loss of such a flock of sheep, and it would be utterly useless, unless some measure was taken to keep them killed, for a few years hence they would be as thick as ever. What we want is a law to prevent the keeping of so many dogs. This could easily be effected by putting a tax of three or five dollars on all dogs, and have the tax rigidly enforced. This would soon rid the State of many a worthless cur. Our present law does not sufficiently protect the sheep interest, and if the Legislature cannot or will not make a law to protect us, every farmer should make it his duty to protect himself, by killing any dog found on his farm, regardless of owner. I for one shall wage war on them in every way possible, and I hope my brother farmers will do likewise. My sheep heretofore have paid me handsomely, but it would take a much larger profit to cover the loss of a flock every four years.

I hope some of your able writers will give us their views on the subject, and devise some means of getting rid of this terrible pest, the worthless dog. C. C. W.

Queen Anne's Co., Md.

[By this time the legislature will probably have settled their political plans, and may for the last third of the session be willing to go to work for the benefit of their constituents. We will almost guarantee that all other classes will obtain their demands, whilst it is probable the farmers will be shorn of what little they now possess in the way of protection to their interests. We advise, therefore, that every farmer in the State *immediately* write to their senators and delegates, demanding of them that this long-needed help to the sheep industry of the State be no longer delayed.—*Eds. Amer. Far.*]

Scale of Points for Judging Cattle. Diagram of Points.

The *National Live-Stock Journal* publishes a scale of points for judging cattle, the scale being that adopted by the New York State Agricultural Society for Short-horn cows, but, with slight modifications, it is equally applicable to bulls, and quite as well suited for the Herefords and other beef breeds as for the Short-horn. The *Journal* has but little faith in the practicability of confining judges artificially to a scale of points in judging any class of live-stock, but thinks, in the hands of intelligent men, they are valuable as suggestions, and may be used accordingly. The following is the scale:

POINTS OF A SHORT-HORN COW.

Pedigree—Should show unbroken descent on both sides, from known animals derived from English herds, as found in the English or American herd books, and *without this an animal cannot compete in this class.*

Head—Small, lean and bony, tapering to the muzzle.....3

Face—Somewhat long, the fleshy portion of the nose of a light, delicate color.....2

Eye—Prominent, bright and clear; "prominent," from an accumulation of adipose substance in the socket, indicating a tendency to lay on fat; "bright," as an evidence of good disposition; "clear," a guarantee of good health....2

Horns and Ears—The horns should be light in substance, waxy in color and symmetrically set on the head. The ears should be large, thin and with considerable action.....1

Neck—Rather short than long, tapering to the head; clean in the throat and full at its base; thus covering and filling out the points of the shoulders.....2

Chest—Broad from point to point of the shoulders, deep from the anterior dorsal vertebra to the floor of the sternum, and both round and full just back of the elbows, or, in other words, "thick through the heart".....14

Brisket—Deep and projecting, indicating a disposition to lay on fat.....5

Shoulder—Where weight, as in the Short-horn, is an object, should be somewhat upright, and of a good width at the points, with the blade-bone just sufficiently curved to blend its upper portion smoothly with the crops.....4

Crops—Must be full and level with the shoulders and back.....8

Back, Loin and Hips—Should be broad and wide, forming a straight and even line from the neck to the setting on of the tail, the hips or hocks round and well covered.....8

Rumps—Laid up high, with plenty of flesh on their extremities.....5

Pelvis—Should be large, indicated by the width of the hips (as already mentioned) and the breadth of the twist.....2

The Twist—Should be so well filled out in its "seam" as to form an even and wide plain between the thighs.....3

The Quarters—Long, straight and well developed downward.....5

The Carcass—Round; the ribs nearly circular and extending well back.....4

The Flanks—Deep, wide and full in proportion to condition.....3

The Leg—Short, straight and standing square with the body.....2

The Plates—Of the belly strong, and thus preserving nearly a straight underline.....3

The Udder—Should be pliable, and thin in its texture, reaching well forward, roomy behind, teats wide apart and of convenient size.....3

The Tail—Flat and broad at its roots, but fine in its cord, and placed *high up* on a level with the rump.....2

The Coat—Should be thick, short and mossy, with longer hair in winter; fine, soft and glossy in summer.....2

Carriage—Of an animal gives style and beauty; the walk should be square, the step quick and the head up.....2

Quality—On this the thriftiness, the feeding properties, and the value of the animal depend; and upon the touch of this quality rests in a good measure the grazier's and the butcher's judgment. If the "touch" be good, some deficiency of form may be excused; but if it be hard and stiff nothing can compensate for so unpromising a feature. In raising the skin from the body, between the thumb and finger, it should have a soft, flexible and substantial feel; and, when beneath the outspread hand, it should move easily with and under it, as though resting on a soft, elastic, cellular substance, which, however, becomes firmer as the animal ripens. A thin, papery skin is objectionable, more especially in a cold climate.....15

Total number of points.....100

In connection with this scale of points, an accompanying diagram, locating and naming the points of a Short-horn bull, is given as interesting, and we copy it here:

EXPLANATION.—8 Muzzle; 9, Nostril; 10, Forehead and face; 11, Eye; 12, Horn and ear; 13, Neck and throat; 14, Breast; 15, Brisket; 16, Shoulder point; 17, Shoulder; 18, Fore-arm; 19, Crops; 20, Fore-ribs; 21, Fore-flank; 22, Back; 23, Back ribs; 24, Belly; 25, Loin; 26, Flank; 27, Hip; 28, Rump; 29, Tail and set on; 30, Quarter; 31, Thigh; 32, Twist (inside of thighs;) 33, Testes; 34, Knee and gambrel; 35, leg; 36, Hoof.

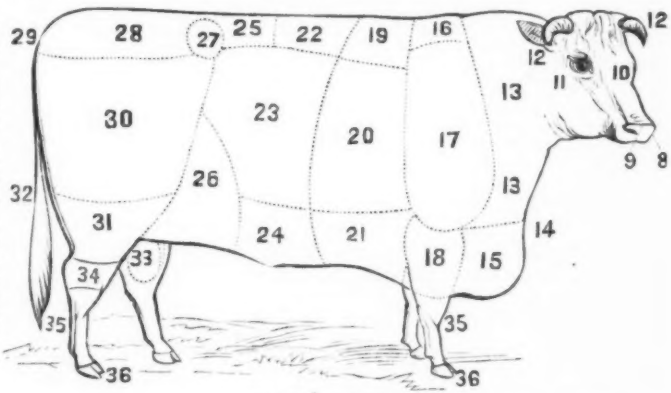


DIAGRAM OF POINTS.

Fattening Steers Profitably.

A New York correspondent of the *Country Gentleman* writes as follows:

There are many farms in western New York used almost exclusively for grain-growing, or at least where stock-growing (and hence pasturing) is of secondary importance. The owners of these farms are accustomed to sell all the coarse products, such as cornstalks, straw, hay, oats and corn, and rely mainly upon clover to restore the exhausted fertility of their soil. While clover must ever remain the main fertilizing agent employed upon these farms, yet there is an apparent need of some other manure to be used as a supplement to clover. The manufacturers of commercial fertilizers have done something toward supplying this need, but nothing has yet been found to fully supply the place of barn-yard manure, or, what is still better, stable manure. This leads me to consider cattle feeding according to my experience. Cattle feeding, like summer-fallowing, is unpopular with a majority of our best farmers, for the reason that poor cattle are fed, and poor land is summer-fallowed. A steer's carcass may be compared to the soil: the food is the seed, the beef is the harvest.

Selecting the Cattle.

The most important and first consideration, therefore, is the selection of stock. I assume that every feeder will buy his stock; hence the necessity of being a good judge of stock. He should know when and where to buy, and know how much to pay. If not a good judge himself, he had better employ some one who is to buy for him. It is false economy to buy steers which have had good pasture all summer and are poor in the fall, because this class of cattle may be bought for little money. The fact of their being poor in the fall is an indication of inaptitude to fatten even with good care and food. This class of steers will invariably disappoint the feeder, and feeding such stock will end in loss. Oxen of 1,500 to 2,000 pounds in weight, if of mature age, will gain more per day than younger and smaller cattle, but will consume much more feed, and will not bring so much per pound as smaller-sized cattle, as butchers and most dealers generally have learned that beef carcasses weighing 1,200 to 1,400 pounds are less desirable for retail purposes than carcasses weighing 600 to 800 pounds. I would therefore not choose large cattle for feeding purposes. I find profit in buying and feeding good, straight, thrifty and fleshy two or three-year-old steers, such as I think will, when finished, weigh from 1,100 to 1,300 pounds (and often 100 pounds heavier.)

I always avoid purchasing a steer with disproportionate head, tail or belly. I buy wild steers if they are broad between the eyes, for such always have good sense and may be easily tamed. If narrow between the eyes, and wild, I never buy them. I buy fleshy steers, because I can buy flesh much cheaper than I can make it, if I

can buy it for 10 cents per pound. If a steer weighing 900 pounds can be bought for $25, he will be cheaper at $35 after he is fed to 1,000 pounds. By buying this first 100 pounds gain, a double advantage is obtained; I have secured the actual gain, and also secured in the animal a habit of gaining. Other things being equal, the second month of feeding will develop a greater gain in weight than the first, even with the same feed. My experience accords with the celebrated German experiments, which proved that during the first stages of the fattening process large quantities of water are removed from the cellular structure, and its place is supplied with a deposit of fat. When this process of substitution has been completed, and the formation of new cells commences, it is then that we may look for a gain in the weight of the animal. While it is economy for the grain farmer to buy the first 100 pounds gain of the steer, it is also economy for him to buy the steer at 30 months old, rather than raise him upon land capable of producing 30 bushels of wheat per acre, and other crops in proportion.

I often realize as much money for the keeping of a steer the last six months of his life, as the former owner did for the first thirty months. It is in this finishing process that all the profit lies. Six months is as long as a steer can be fed with profit, unless we turn to grass—something which the true grain farmer will not be guilty of. Six months is insufficient time in which to convert a thin steer into prime beef; therefore I say commence with fleshy steers. The fattening process in cattle can never be hurried, and is at best a slow one—15 pounds per week being the best gain I have ever been able to make. I avoid surfeiting, as a steer once cloyed will never have a regular appetite again, and his gain at best will be irregular. A good appetite being essential to the thrift of a steer, all reasonable efforts should be made to sustain it. To this end I allow plenty of out-door exercise, and am careful never to give more grain than they will eat.

I have frequently noticed that oxen, moderately worked and liberally fed, would gain more during a spring's work than steers which were not working but correspondingly well fed would during the same time,—a fact which tends to prove that if plenty of exercise is not a positive benefit to fattening, it is at least no detriment. When I first commenced feeding cattle, I kept the stables too warm; an error which I think many are led into by imbibing the popular delusion that an animal's thrift during winter is measured by the height of temperature we are able to sustain in its stable. A steer, to thrive, should be kept comfortably warm; but he is not a hot-house plant, liable to wither and die should the temperature in his stable happen to fall below the freezing point. All fattening steers will, of course, be tied with ropes or chains, and allowed freedom for their heads.

For fodder I use principally corn-stalks, and always feed in the field in suitable weather; that is, when there is not too much mud or snow. I feed grain in the morning, then draw sufficient corn-stalks to the field to last all day, after which I turn the steers out. At about three o'clock they are again stabled and fed another ration of grain. In drawing stalks I select for the feeding ground the field designed for corn the next year. After trying different varieties of grain, I have adopted the following mixture: Corn, three parts; oats, one part; ground together fine, then add one-fifth part wheat bran. This makes a cheap mixture, and one which no healthy steer will refuse, unless over four quarts are fed at a feeding, twice a day.

Superphosphate after Lime.

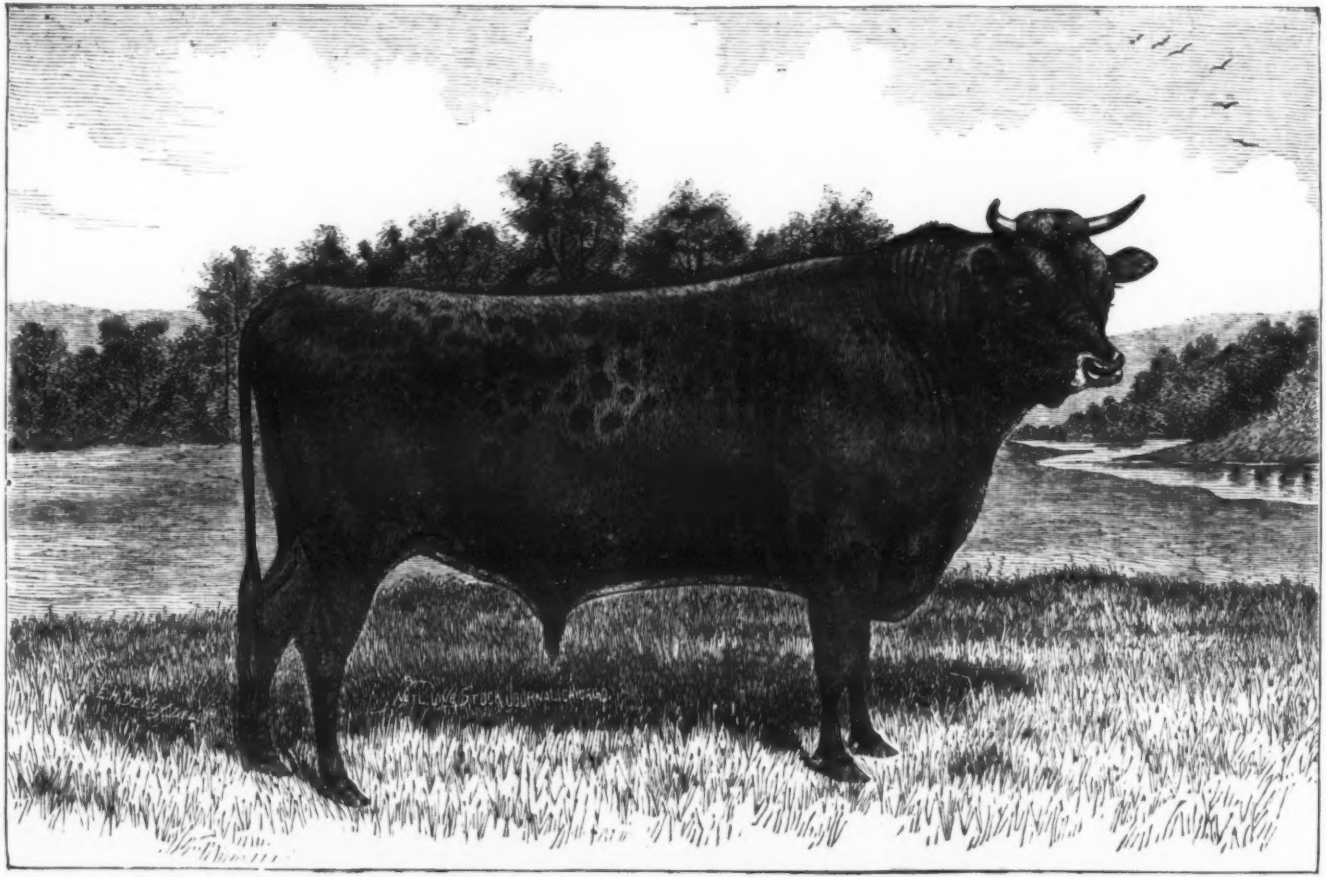
The question is so frequently asked as to the effect of applying superphosphates to land that has been recently limed, that the following experience of a Maryland correspondent of the *Country Gentleman* will be read with interest:

I always lime my land in the spring for corn, and am satisfied that the lime is paid for in the increased yield of corn. In the fall the corn is cut and shocked, and the land seeded to wheat, with the application of two or three hundred pounds of superphosphate of lime to the acre, and the action of the superphosphate is splendid, making a fine yield of wheat. A few years ago I plowed a field for wheat in August, and limed it in September; worked the lime into the soil in the preparation for wheat, and drilled in the wheat with 250 pounds of superphosphate to the acre, and it made me 21 bushels per acre, on a 40-acre field.

My usual crop of wheat is from 650 to 700 acres, every acre of which has been limed, some of it twice and some three times. I always lime for corn each year, and I never sow a single acre of wheat without 200 to 300 pounds of superphosphate per acre, and I am satisfied from my experience that the action of superphosphates, on freshly-limed land, is highly satisfactory, both to myself and the tenants. In fact, I believe that they go hand in hand, and that to get the best results in growing wheat the two are inseparable. One of my neighbors a few years ago, when we first commenced using superphosphates, sowed two lands in his field and staked them off, and wrote on the stakes with a lead-pencil: "These two lands were fertilized." When harvest came, the two lands had a splendid crop of wheat; the remainder of the field he never cut, as it did not yield as much as the seed that was sown on it. This land was limed in the spring before planting corn. The prospect for the growing crop of wheat is very fine.

New-Market, Md. D.

AGRICULTURAL SOCIETIES.—No class of premiums would be productive of more good than one offered in each county for the best managed farm. Hedge cultivation, greater pride in the care of stock, better buildings and a more thrifty appearance about the farms would be the result if thus stimulated by competition. Again, the farms under the best management would be brought prominently before the eye of the public, and would guide those who are trying to improve their method. We hope this feature of the work of Agricultural Societies will receive attention.



LE BROCQ'S PRIZE, 3350. Property of Churchman & Jackson, "Beech Grove Farm," Indianapolis, Ind.

The Dairy.

Fifty-Cent Butter.

Mr. Richd. Goodman, Jr., writes to the *Homestead* the following suggestions on the making of this class of butter, concluding, as is natural, he being a well-known breeder of Jerseys, that they are entitled to the highest rank in producing it:

By the term "fifty-cent butter" I mean that butter which will always stand with the best quarter in stalls and markets, where all varieties are represented and sold—that kind which, without any outside aid from stamping, or wrappings, or fancy packages, will quietly but certainly find its way into the front ranks, and, what is more, will stay there. Now, butter of this kind cannot be made by every farmer and his wife in the Union, but it can be made by a great many who, though striving hard and conscientiously, fail to make it to-day. . . . .

In the first place, fifty-cent butter cannot be made from cows whose organization is in a feverish state from disease in better known forms, or as it exists in a cow in heat, or excited by being run by dogs, or shouted at, or kicked by boys or men, or from the state produced by under-feeding or over-feeding, or from foul air or impure water, or want of change of food. In all of these conditions, and also during the first three days after calving, and in extreme old age, the milk is unfit for butter because of the existence in it of certain gases according to some chemists, a kind of yeast or ferment according to others. When this gas or ferment is present in milk or drawn from the cow, it goes to work immediately and with great energy to destroy the delicate relations which the dozen or more elements of milk bear to each other, and in the way milk is ordinarily handled—namely, in shallow, open pans in a temperature of sixty degrees—this work of destruction goes on with great rapidity, and butter salvy in texture and rancid in flavor and odor is the result. The chill of deep-setting at forty degrees arrests to a great extent the destructive work of this ferment; it is put to sleep as it were, and it will remain asleep as long as a low temperature is maintained, but it will awaken into renewed activity as soon as the cold is lessened, as it must be more or less in the operations of churning, and salting, and working, and transporting to market. Heating to 160° or 180° will act more effectively upon these harmful gases; it seems to drive them away rather than to put them to sleep, and many of them will never return, but those which do will find the milk more than ever ready to be acted upon, as its own character has been injured by the great heat, and the injury will be the more perceptible in the butter, as the heat of 175° has volatilized and driven away not the ferment only but the two or three fragrant oils which give the characteristic flavor and odor to good butter.

It should also be borne in mind that in the case of cows under-fed, and less than three days from calving, and in extreme old age, there is not only the ferment caused by fever present, but some of the necessary elements of good butter are absent. The heavy fats may be in excess as compared with the lighter ones, or the casein may be out of proportion to the fat globule it encloses; the sugar may be reduced or the salts increased, or the odoriferous oils diminished.

In the second place, fifty-cent butter cannot be made from cows fed on musty hay, rotten roots, mouldy corn or wheat, turnips or strong-tasted weeds in the pasture; nor from those which have stagnant water to drink, or bad air to breathe, or filthy stalls to lie in; for in each and all of these cases the strong odors of the substances themselves will be conveyed directly into the milk, and, like the odors produced by the feverish ferment above mentioned, though they can be quieted by cold and largely expelled by heat under the former treatment, they will rise when the temperature rises, and in the latter the heat which expels them also drives away the desirable odors of the butter itself.

One often hears a butter-maker say: "Oh! I can feed all the turnips I want to if I scald my milk." And so she can; in her butter one cannot taste the turnips, but can one taste or smell any of the real, lively, delicious odors of the best butter either? Most certainly not.—We must never forget that with the solid and light fats of butter there are combined three highly volatile but highly odoriferous oils called butyrine, caprine and capryline. Heat sufficient to drive away the bad odors we are considering will be more than enough to drive all of these odorous oils away, and then our friend's butter will become unworthy of the name, and hardly fit to be classed with lard and suet.

In the third place, fifty-cent butter cannot be made from those cows in whose milk the average size of the butter globule is small, since the butter in milk as drawn from the cow exists in the shape of minute globes varying in diameter from one twenty-seven-thousandth of an inch to one fifteen-hundredth; and each of these globes of butter-fat is enclosed in a third membrane; and since in cream-raising the larger globules rise more rapidly, and in churning the envelopes of the largest globules break more rapidly, theory and practice both have shown that the milk containing the largest globules makes the best butter.

Repeated and careful tests have shown that, comparing one thoroughbred race of cows with another, the Jersey gives milk containing butter globules of the greatest average size. It has also been found that the Jersey possesses the thoroughbred power of impressing its leading characteristic—in this case the large butter globules—upon the offspring of whatever race, thoroughbred or native, it is crossed with.

In proof of this, and as the result we should expect, we find that the butter of pure-bred or high-grade Jersey cattle has gained the highest place in the market.

The cream in milk of the larger globules rises quicker, hence the better flavor; in the churn the butter "comes" quicker, hence the better grain. Flavor, and with that odor; grain, and with that keeping quality: grant these four elements, and we have the foundation and the superstructure of "fifty-cent butter."

Mixing Milk of Different Breeds.

There have been frequent opinions given against the propriety of mixing the milk of different breeds of cows, it being supposed that the different qualities of milk prevented a portion of the cream from rising, and thus reduced the yield of butter; and others have supposed that cream containing different-sized globules could not be perfectly churned and gathered, as the cream from Jersey milk would churn much sooner than that from common cows; but no very definite experiments were made to determine it. We see that a dairyman has written to the *American Cultivator*, urging the loss of butter by mixing the milk of different breeds, and gives instances to prove his position from several skilful dairymen. One of these says:

This fall, when my herd was making a given quantity of butter weekly, I added to the number of my cows two high-grade Jerseys. I soon found, on weighing my butter product, that the addition of the two Jerseys made no perceptible increase over the previous quantity of butter. I concluded at once that my Jerseys were at fault, and would not make the amount of butter supposed. The latter were new milch cows, and very promising animals in appearance. I next set the milk of each of the suspected Jerseys by itself, and found that the yield of one made twelve pounds of butter, while that of the other made but a little less; also, that the original herd, upon careful and repeated test, yielded as before.

Another dairyman, who has twelve cows in milk, the majority of which are Jerseys, obtained from cream which ought to have produced 70 to 75 pounds of butter but 38 pounds. The next week he kept the cream of his grade Jerseys and Short-horns separate; and with eight days cream, instead of seven, as in the previous experiment, he obtained 83¼ pounds. Both of these dairymen are thoroughly convinced that it is not well to mix the milk and cream of different breeds.

A third dairyman, whose herd was composed of about equal proportions of grade Jerseys and Short-horns, and who is a firm believer in high feeding and the most careful attention, could get only about five pounds of but er per cow weekly. Finally he concluded to set the milk and churn the cream of each cow separately, and found that he had not a single cow that gave less than six pounds, while several yielded upwards of nine pounds each.

Such practical experiences as these are well worth the attention of butter-makers.—*National Live-Stock Journal*

WM. MILLER, of Washington Co., Pa., recently sold 1,600 fleeces of wool at 40 cents ₱ lb.—These fleeces were the accumulation of seven years and 8,000 pounds.

As showing the influences of feed on the fecundity of domestic animals, it is stated by Miles, that among the barren hills of the west of Scotland, two lambs will be born by about one ewe in twenty; whereas, in England, on the rich pastures, something like one ewe in three will bear two lambs.

Enterprise Farmers' Club.

Messrs. Editors American Farmer:

The first meeting of our club in the new year (held this date) was remarkable for being attended by all its members. We convened at Chas. H. Brooke's. It was a mild spring-like afternoon, and the plows were seen running in several fields in sight.

On our arrival we found the club already out on its round of inspection, with B. H. Miller foreman, and Capt. Strain, H. H. Miller, Chas. F. Kirk and Chas. Farquhar, honored and honorable guests.

We found members examining the plowing of a sod-field of some twenty acres, moderately rolling and nearly square. The plowing had been begun in the centre of the field to avoid turning on the plowed land and to change the dead furrows. The plowing was done with a Rowland Chilled Plow, about six inches in depth.

Mr. Brooke is applying lime to this field, some being plowed under and some put on the fresh-plowed land. He says he is not particular how he applies lime, but is always anxious to get it on somehow.

We next visited the corn-stubble field of 1878. Many of the stalks still standing in an upright position, as left when cut off with the corn-knife, but all in between was a fine set of clover, the seed of which was sown in the last working of the corn in '78 and again in the spring of '79. Mr. Brooke stated, and indeed there was visible evidence, that there had been a heavy growth of clover thereon the past season, which had been pastured and trampled by milch cows for the present increase in the milk-pail and the future benefit of the land.

The winter wheat was looking well, as indeed was everything on this improved and improving farm

Our host very much needs a large, handsome barn to set off his place, but not that it would increase the comfort of his stock, for they are not now neglected, and evidently have the benefit of their master's eye.

The first business that claimed our attention was the result of the reading of a letter from the secretary of the proposed National Agricultural Society, inviting us to become members of that body. After a general discussion of the subject, the whole matter was laid on the table.

Asa M. Stabler produced and had read a letter from R. C. Shoemaker from near Philadelphia, giving a full and very interesting account of the Farmers' Haymarket of that city. The account was so favorable to the enterprise that a subscription of $3,150 was immediately made up by those present to establish a similar one in Washington for the benefit of farmers adjacent in Maryland and Virginia.

The opinion was generally expressed by those present that up to the present time the weather had been favorable for winter wheat.

P. T. Stabler said we only had to look at the wheat to see the fact. He had some sowed after the November election that looks bright and vigorous.

R. B. Farquhar said he did not believe anyone could now form an opinion as to the outcome of the wheat crop of 1880, as all depends on the season in the spring and summer after the frosts are over.

Questions:

Will it pay to cut hay and mix with ground food for stock?

Chas. H. Brooke expressed it as his belief that it would pay, provided one was fixed with conveniences for the purpose.

Granville Farquhar said that the expense of labor connected with the operation would outweigh its advantages.

S. Hopkins believes it will pay to cut hay and mix feed for cattle, and that the hay and grain should be well moistened and mixed several hours before feeding.

R. M. Stabler thinks favorably of cutting hay for chop; he gave it as his opinion that ground grain, in itself, would be more beneficial to stock if fed mixed with cut hay. This idea was concurred in by several others.

Shall I make war upon English sparrows?

J. T. Moore was for taking the war-path against them; he said the little foreigners were driving away the native birds from the vicinity of New York and other places where they had obtained a foothold.

Chas. F. Kirk would not act on the offensive. He favored letting all birds have an equal chance; he believes in the survival of the fittest.

R. B. Farquhar exhibited some clover roots, turned out by his plow, which had penetrated the soil to a depth of over two feet.

After some other business of an entirely local character, we adjourned to meet at W. R. Brooke's in February. Yours truly,

Montgomery Co., Md., Jan. 24th. N. E. D.

P. S. (Feb. 14th)—We were very much pleased and edified by the article in the February number of the *American Farmer*, from the pen of our esteemed friend, A. B. Davis, on the subject of transportation facilities in Maryland. We take the liberty, however, of suggesting that when the improvements spoken of are being made, that the muscles of the worthy laborer, *outside the prison bars*, be employed, on the ground that an ounce of prevention, &c. &c.

St. Michael's (Talbot Co, Md.) Agricultural Society

Held its election, at the February meeting, for officers, when F. A. Benson was elected president; O. Hammond, secretary; and Jas. E. McDaniel, treasurer. The subject of "Provender for stock—the best kinds and the best way of raising and curing it," was discussed at some considerable length; but being considered a very important one, and as some of the members desired to study it and read upon it, it was laid over as the topic for the March meeting, which will be held at Mr. F. A. Benson's on Thurday, March 11th.

The ground was so wet and muddy the members of the society were not disposed to do much walking, and the inspection of the late president's (Mr. Hopkins) farming was confined mainly to looking at his wheat fields and his immense manure bank. The *Comet* says: He has beautiful wheat; there is not much, if any, in the district equal to it.

Though the day was mainly spent indoors, by stress of weather, the meeting was an exceedingly pleasant one. Mr. Hopkins' bountiful dinner was heartily enjoyed. The rules of the society require that only a plain farm dinner shall be served, which is Eastern Shore for all the table luxuries an epicure could desire.

The Gunpowder Farmers' Club

Met, February 21st, at the residence of Edwin Scott, who being justly esteemed one of the most thorough and progressive farmers of his section, we regretted being delayed in reaching the meeting until after the customary inspection of his farm, &c., had been gone through with.

The subject of the probable change in the laws regulating the inspection and weighing of hay and straw being considered, some discussion ensued as to what would be to the interest of the farmers of Baltimore county in the premises. The action of the Enterprise Club, of Montgomery, at its January meeting, looking to the establishment of a farmers' hay market in Washington, was referred to, and some suggestions made as to the advisability of a similar enterprise in Baltimore city. After considerable debate the matter was referred to a committee of four members for investigation and to report to the club what could be done, if anything.

Half Hour for Questions.

Jno. D. Matthews—At our recent meeting at A. C. Scott's we found the orchard, which was sown in orchard grass, very much dug up by hogs. Is this good practice?

A. C. Scott—Believes it best for the orchard, and the hogs root the plaintain out without hurting the grass very much. In a timothy meadow rooted up saw no difference, especially when he ran the harrow over and rolled the disturbed portions. Plaintain will run timothy out, but he don't believe it will orchard grass.

Jos. Bosley—Hogs will not root much in orchard grass, especially when it gets two or three years growth; the roots are too tough. The hogs would eat the plaintain and clover roots and cultivate the orchard grass.

Col. Franklin—The practice of ringing hogs is growing, which looks like a disposition to prevent hogs rooting.

J. D. M.—If hogs will eat the plaintain without rooting out the grass it is worth knowing.

E. Scott—I have a meadow sod to plow for corn which has been mowed four or five times. Shall I plow it now as soon as possible, or leave till later in spring? The soil is part clay and part loamy.

S. M. Price—Would plow as soon as I could, when the land is in condition, especially the stiff soil. It requires less work to get in order and there is less trouble with cut-worms.

Jos. Bosley—Would plow as soon as fit.

D. Gorsuch—Plow as soon as opportunity offers. A tough blue-grass sod, 10 years in grass, I have been plowing all winter.

S. M. P.—What grasses are preferable to sow for permanent pasture?

J. B.—Hasn't experience with many kinds; would try clover, timothy and orchard grass.

D. G.—If you want pasture right away would prefer to let it run to natural grass,—sowing first orchard grass, timothy and clover.

E. S.—Then you wouldn't get rid of the orchard grass? Has anyone experience with Kentucky blue grass?

B. McL. Hardisty—Has sown it several times, but never got a catch, though tried spring and fall sowing both. Thinks the trouble is in the depth of covering, which in dry season is not great enough; in others, too great. Saw a man sowing grass seeds in one of the squares around Washington Monument, Baltimore, where they were being improved, and asked what it was, and was told Kentucky blue and English lawn grass. He found afterwards, on examination, a good sod of the lawn grass, but very little of the Kentucky blue.

Col. F.—Succeeded with some on a lawn, sown in spring, but it was not very thick.

J. B.—Is the large clover sown much now? Thinks it would do better than anything else to improve our lands.

S. M. P.—Tried it some years ago, but it made him sick before he got it into hay. Heard a few weeks ago from Gov. Hamilton, who uses nothing else, how to manage it. He puts his stock on it and pastures to 1st of June, and then mows a good crop. The stalk is fine then and has little woody fibre. The governor puts a steer to every acre of it in the spring of the year.

B. McL. H.—Has this winter been unfavorable to the fly in wheat? Some think the warm spells have had the effect of prematurely hatching them, and then the cold weather following has killed them.

D. G.—Can you pasture the fly out—with sheep for instance?

J. B.—In one instance he pastured his fallow wheat so severely that the corn ground beat it. Has never pastured since.

J. D. M.—Had a lot of wheat he thought was going to be utterly destroyed by the fly. Put sheep on and kept them on all winter, often when the ground was soft, and they kept the ground bare. When he took them off the wheat made a luxuriant growth and good yield.

D. G.—Is the plaster which is added to the fertilizer any benefit to the grass—that is, can we use less on the grass than we ordinarily apply?

S. M. P.—Uses to every three bags of fertilizer one bag of plaster, the result always being good. Last year he failed to secure usual results from fertilizer because, as he believes, he omitted the plaster. In sowing on grass after grain would not want to put on less than 75 lbs. to 100 lbs. per acre.

J. D. M.—Would not diminish the plaster. The experience of T. T. Gorsuch seemed to indicate that none of us use plaster enough. The quantity we generally use could be advantageously doubled. He had seen on his own land marked benefit for many years from a barrel of plaster spilled on poor land.

D. G.—Tried on wheat once 600 lbs. to the acre with great advantage, and for a number of years afterwards the effects were very noticeable; but on repeating the experiment saw no result.

J. D. M.—What quantity of salt shall we apply as a fertilizer, when sow, and how to apply it?

A. C. S.—Sowed 5 bushels on barley with much better results than when ashes were sown, and the grass was better, too. This was sown in fall of '77, and the effects are still seen.

D. G.—Are we justified in selling wheat straw at $13 per ton in Baltimore market?

J. D. M.—I would not sell it at twice that figure.

D. G.—How many tons of wheat straw going through the stables would manure one acre? John Bond and S. M. Price each thought two tons.

N. Miles.—Two tons would hardly go over an acre.

D. G.—My idea is four or five tons.

W. W. Matthews.—That is a heavy estimate. One ton of dry straw, evenly spread, makes a pretty good dressing on an acre.

A general and vivacious discussion ensued on this point; the general opinion being, however, that if the net amount from sale of straw was put in commercial fertilizers it would pay magnificently to make the operation, but, in most cases, the straw was needed as an absorbent, and could not be spared.

D. G.—Tries to make *manure* of his straw—to decompose it. Some years ago his average manuring was 13 four-horse loads. Now his manure is better and he uses eight to the acre.

E. S.—One ton of dry straw makes two or three four-horse loads of manure from the stables.

J. S. M.—Straw has different uses and offices from fertilizers. It is shade and mulch; but if he had straw and no fertilizers, and no money to buy fertilizers, and couldn't borrow money wherewith to buy them, he *would* sell his straw to buy them!

Jos. B.—Didn't sell his straw, because in a single experiment it took two days at home to put on 3,800 lbs., and two days in town to sell it, and the driver came home with $5 for the load.

Dr. M. Merryman, (a visitor.)—Is there any spring wheat known which would make a crop in this climate.

D. G.—Captain Love tried some two seasons ago, which was an entire failure.

D. G. to J. D. M.—Have you any experience in spring plowing? (*a*) Yes. If I were E. Scott I would not plow the ground now he asked about. Hard rains will bake it. It will suffer from excessive wet and extreme drouth. Rains and snows will make it very compact. I would not plow a furrow until the middle of April.

D. G.—Plowed at an angle, the water would go right through and not compact it!

A debate here ensued, showing conflicting and entirely diverse opinions on merits of late and early spring plowing, as to which facilitated the getting into condition of the land, favored escape from worms, &c.

The time allotted to questions having been

much extended, the reading of selected articles by two of the members (one on the Application of Manures, by W. W. Matthews, and one on Commercial Fertilizers, by Thos. Gorsuch,) brought the session to the usual hour for separating, when it (the club) adjourned to meet March 20th at Edw. H. Matthews.

Concentrated Fertilizers.

A Reply to Howard Meeks, Esq.

Messrs. Editors American Farmer:

In your last issue Mr. Meeks states two questions which he answers, and one to which he invites an answer.

His first question is: "*Is there any analogy between organic animal life and inorganic land?*" He answers, "Yes." This answer is verbally right, and yet, as matter of fact, wrong. There is an *analogy* between the changes and transformations going on in the soil and those going on in the vegetable and animal organism; but there is no *similarity*. And it is obvious that he means "similarity" when he uses the word "analogy." Any dictionary will set him right, and I refer him to Wheatley's admirable explanation in his rhetoric. Such analogy as does exist is of a very slender and poetical character—useful to literary men as a source for metaphor, but not useful to the plain farmer for instruction.

Question second is: "*Is there any such thing as stimulating land as distinguished from enriching it?*" He answers, "Yes." Put the question in this form: "Is there any substance which, when applied to the soil, will act upon it as alcohol or other stimulants act upon the animal organism, thus producing the depletion and marasmus familiar to doctors." Thus stated, and thus he obviously understands the question, the answer is: Certainly not. You may place substances (such as ammoniacal compounds, concentrated soluble phosphates, &c.) in the soil, which, furnishing early supplies of rich plant-food to the growing plant, will give it a stronger hold on life, make it more vigorous, cause it to send out larger and stronger roots, enable it to extract more of the available food in the soil, and so produce a larger yield, and thereby exhaust the soil by so much as is accounted for in the additional crop produced. Such is the action of ammonia compounds and concentrated phosphates. Lime, in the same sense, is a "stimulus," by rendering available the stores of plant-food locked up in the soil because insoluble. Lime in its caustic condition enters into combination with the complex vegetable acids, (Humic, Ulmic, &c.,) decomposes the "amides," and yields them to the growing crops in the form of "ammonia" or some of its salts. Other alkalies act in a similar manner.

Mr. M.'s opinion seems to be this: The use of ammoniacal salts, phosphatic salts, potash salts, &c., or, that is, concentrated fertilizers containing such, is injurious to the soil, and renders it unfit for production in the future. So much I gather from his letter.

It would occupy too much of your space to insert here a full statement of what scientific agriculturists know about ammonia and other nitrogen compounds, and their function in the soil and in the plant. I reserve that for a future letter, and pass to the practical and sufficient answer to Mr. M.'s objections.

First of all, let Mr. M. and other farmers who are dissatisfied with the use of concentrated fertilizers note this fact, proved by the history of the agriculture of the world for the past fifty years. Progress and improvement, increased yield of crops, larger rental, better condition of the farmer and farm-laborer, greater commercial prosperity, are most perceptible in those countries where the greatest and best use has been made of guano and similar concentrated manures. In those countries which do not use them, agriculture has stood still or retrograded. As instances, take France, Holland and Belgium, Germany and, beyond all, Great Britain. It has been proved that naturally good land may be maintained in a constantly-increasing state of fertility by the use of such manures only. Take this case; I quote from memory, but am sure I give only substantial facts: A speculator some 15 or 20 years ago purchased over 1,000 acres in England, of land, stiff in texture and notoriously barren; he broke it up deeply and thoroughly, and sowed it in wheat, applying an amount of guano per acre which would make Mr. M. stare. He sold the wheat standing to farmers who cut it and carried off both straw and grain. He repeated the process for many years, and was doing so when I read the account a year or so ago. And what was the result? injury to the land? By no means. The first year's yield was 18 bus. per acre, and increased from that to 40; and the once barren, "dead poor" land is now accounted one of the choicest wheat farms in England, and pays a large profit on the annual outlay. This is an extreme case, but it gives point to the lesson.

Now to come nearer home. My own observation of practical farming extends to most of the States south of Connecticut and east of the Mississippi river. The result is the same. Wherever concentrated fertilizers have been most largely and judiciously used, the progress of agriculture and the improved condition of the farmer is most noticeable. From the prairies of the West and Northwest, from the savannas of the South, and the rugged hillsides of the North, comes the same answer: "We cannot compete with those who use fertilizers unless we use them, and we find that by using them we grow richer in pocket and in land." These words, with but slight variation, give the exact answer of the wheat-grower of Minnesota, the corn-grower of Ohio, the tobacco-raiser of Virginia, the sugar and cotton-producer of the South, and the trucker of the New York market, as spoken to me in response to the question put by Mr. M.

The most successful farmer I know in my immediate vicinity, both as to income from his farm and increase of its fertility, is the one who uses concentrated fertilizers most lavishly.

The failure attending some who use such manures is owing to six causes:

1. The buying of inferior and adulterated fertilizers on credit.

2. The system of selling from the farm, each year, all that the farm produces, without returning an equal quantity of plant-food to the soil.

3. An insufficient amount of ready money, capital and farm-stock to work the land they have in hand.

4. Ignorance of the fundamental laws of plant growth.

5. Waste of home-made manures and neglect to drain and clean naturally productive land.

6. Failure to take a good agricultural journal like the *American Farmer*, which would lead them by instruction to correct the above-mentioned errors. HOBART HUTTON.

Montgomery Co., Md.

Horticulture.

The Selection of Grafts.

Messrs. Editors American Farmer:

In the propagation of fruits the selection of grafts is an important matter, and authorities differ as to some of the requisites appertaining to their location, character, health and free growth, and when, where and how to take, set and manage them.

Graft, or graff, (greffer, Fr.,) in gardening is the shoot, twig or cion of a tree inserted in and becoming one with another tree, nourished by its sap, but bearing its own fruit. By this means we are able to perpetuate the finest fruits, to preserve select kinds and force other or worthless trees to bear the progeny of other and better sorts, and to facilitate early bearing, besides other important advantages.

According to Mr. J. Cooper, of New Jersey, the grafts or cions that are most proper for insertion "are the last summer's growth from the outside branches, firm and well ripened, and selected from healthy trees. The graft is always the middle part of each shoot, cut from six to eight inches in length, so as to have from four to eight good eyes or buds. These should be preserved at full length until grafting-time." This is also the English mode of selection. There are also certain other important things connected with this subject that require a few special remarks:

1. What is the relative value of grafts or cions taken from the superfluous shoots and twigs of nursery stock, (apples and pears,) from one to two years old from the graft, in comparison with those taken from the extremities of the outside branches (midway the trees) of thrifty bearing varieties?

2. What is the difference in time, if any, in beginning to bear and in bearing qualities between these differently-located grafts?

3. Is there any difference in the growth, form, appearance and longevity of trees caused by taking grafts from different parts of an adult tree and those from nursery stock, which are used in time of scarcity of grafts?

In reply to some of these questions we give some modern ideas and append our own: Mr. Downing says: "Every good cultivator will avoid grafts cut from the ends of old bearing branches, exhausted by over-bearing; the same feebleness of habit will in a great degree be shared by the young graft. And on the contrary, if the thrifty straight shoots that are thrown out by the upright extremities, or the strong-limb sprouts are selected for grafting, they insure vigorous growth and healthy habit in the graft." He also says: "It is a simple and easy mode of increasing the vigor of a sort of delicate habit to take cions from young root-suckers for grafting anew. This, of course, can only be done with trees that grow on their own roots, or have not been grafted."

Mr. Meehan, of the *Gardener's Monthly*, says: "I have no doubt cions from healthy bearing trees make better trees than cions from nursery trees, and, we believe, produce earlier bearing trees than those from nursery rows."

Mr. P. J. Berkmans, nurseryman, and president of the "Georgia Horticultural Society," who is also good authority, remarks: "I find no difference in cions taken from bearing trees, or two-year-old nursery trees, provided the latter are matured properly. In my opinion there is no difference as to bringing the trees in bearing any earlier, if cions are cut from the extremities of the branches."

Our experience with grafts, in connection with the views just given, may not add much to the information on this subject; but if we can throw any light on a topic interesting to fruit-growers, and one which constitutes the first steps in the culture of fine fruits, we shall consider it an agreeable task.

We give it as our opinion that the very best grafts are taken from "the thrifty straight shoots that are thrown out by the upright extremities" of vigorous bearing trees; next to these, the grafts taken from the horizontal branches, midway the trees; next, those clipped from the lower limbs. Some authors affirm the latter produce crooked, ugly trees, but come into bearing sooner than those taken higher up. We are inclined to think trees from such grafts are also less thrifty. It is our opinion, and in part our experience, that grafts from nursery stock, suckers, &c., are more *apt to take*, grow faster, are as thrifty and healthy as any, but that the trees raised from these occupy more time in succulent growth and are a year or two later in fruiting; and upon the whole, eventually prove as hardy and valuable as those reared from the most eligible part of vigorous bearing trees, and are superior in longevity.

Incidental Remarks.—One advantage in grafting, not generally appreciated, is that tender sorts of trees may be rendered more hardy or acclimated by grafting into hardy native stocks; and, also, a fruit can be raised to succeed well on a soil *not congenial to it* by grafting into hardy stocks adapted to the soil. Cions may be cut any time from November to the time of setting. They should be buried in light, dry, well-drained soil, or placed in moist sawdust in a cool cellar. If the grafts are taken from trees on the farm or near by, we succeed as well, or better, by taking them directly from one tree and setting them in another. The time for grafting varies—stone fruits will allow the operation a little sooner than other sorts, especially the cherry. From February in the South to April in the North is a suitable time. When the buds just begin to swell we consider the stocks in the very best condition to receive grafts. J. FITZ.

Keswick Depot, Albemarle Co., Va.

Haymarket (Va.) Agricultural Club.

Discussion on Fruit Culture.

Messrs. Editors American Farmer:

The club met on the 23d January at "Clifton," residence of Capt. R. H. Tyler,—all the members being present. After the election of officers for the present year the club broke up for inspection, and found everything in good order,—his fields of wheat, both fallow and corn-stubble, being fine, and promising a first rate crop.

Promiscuous questions being now in order, member Brown asked: "In cleaning land is it profitable to leave shade trees for cattle?" The club was found to be very evenly divided on this subject, the strongest argument on the one side being "the comfort of cattle" and on the other "the fact that bob-tail cattle are always the fattest, they having to keep out in the sun to get rid of the flies; and one member thought that if the vote of graziers was taken on this subject it would be against having shade trees." If any other club would give us their opinion, it would be interesting, as we are so evenly divided on this subject.

After dinner, questions for the evening: "Fruits most suited for this section," was brought up, and the discussion opened with "the apple," and the unanimous opinion of the club was that *all apples* do well here; that it is more profitable to raise winter than the earlier varieties,—the favorites being *Winesap* for its bearing and keeping qualities: *Jeannette* for same reason; *Albemarle Pippin* on account of its export demand, and the *Prior Red.* Col. Berkeley stated, that he had on his farm two very superior seedlings, known in this part as "the Hutchison" and "Swamp;" the former not of prime quality, but very prolific and a good keeper; the latter he considers superior to the Albemarle Pippin.

Pears less grown by members than any other fruit, probably the blight being the cause for this, although one member has a pear tree (seedling) on his farm which measures fifteen feet round.

Cherries and Peaches of all varieties grow to perfection, and trees seem to hold out well with ordinary care. No shipments of any importance, however, are made from here, as fruit-growing is comparatively a new industry in this section, and is, so far, principally confined to *grapes*, of which large quantities are now yearly shipped from our depots.

The grape-growers of the club were quite enthusiastic on the subject, and with good reason, seeing that these crops have been by far the most remunerative on their farms. They not only praise the *productiveness* of the crop, but also claim that the *quality* has been admitted by many Northern consumers to be superior to their own.

The example set by some of the members of the club has already been followed by others, and those who first started this industry some twelve years ago, are annually enlarging their vineyards; and no better incentive could be given to any beginner than the statement made by President Heineken to the effect that if the demand for his wines kept increasing as much as it had been doing, he would soon be able to offer a home market for all grapes grown in this section. It is found that a good many of the new varieties are grown with success, but it would be premature to form a decided opinion about them, the main reliance being placed on the old well-known varieties, viz: Cynthiana, Norton Seedling, Concord, Martha, Ives, Clinton, etc.,—the average crop of the above being from 5,000 to 10,000 lbs. per acre.

The club meets again February 20th, 1880,

THOS. LEE THORP, *Sec'y.*

Prince William Co., Va., Feb., 1880.

Kieffer's Hybrid Pear.

Messrs. Editors American Farmer:

Speculation as to the cause and cure of pear blight still continues, and still our pear orchards are cut down by this terrible scourge. Naturally considerable attention has been given to planting varieties believed to be comparatively exempt from blight, but heretofore with only indifferent results. Light, however, is at last breaking, and in a few years we undoubtedly will see an entirely new list of varieties planted, and the blight will be a thing of the past.

The Chinese sand pear has been grown in this vicinity for many years, and has always attracted attention by its vigorous growth, ornamental foliage and productiveness. It also has always been exempt from blight with us, standing uninjured in orchards where all other varieties around them were dead and dying from blight.

In 1868 a Mr. Kieffer, living near here, sowed seed of the sand pear, which is supposed to have been crossed with Bartlett, and the result is Kieffer's Hybrid Pear. The tree partakes of the vigorous healthy growth of the sand pear, and for several successive years has produced fine large pears of good quality,—ripening in November.

The leading members of the Pennsylvania Fruit-Growers' Society, at their last two annual meetings, have spoken of it in the highest terms. The fruit attracted much attention at the Centennial Exhibition in 1876, the committee on fruits pronouncing it as giving promise of a *new race of pears of great excellence.*

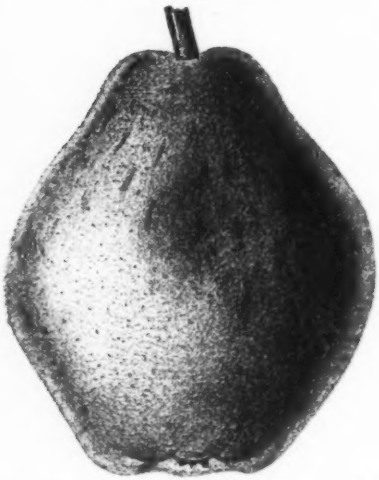
Young trees that have been propagated from scions cut from the original tree come into bearing very young. One tree two years old produced a specimen weighing 12 ounces; and another tree only three years old produced one weighing 18 ounces.

A few other hybrids or seedlings of the sand pear are being introduced, among them the Le Conte, which appears to be valuable as an early sort, ripening before the Bartlett. The great interest now awakened in hybrids and seedlings of the sand pear doubtless will lead to the production of a full assortment of BLIGHT-PROOF PEARS of good quality.

It may not be amiss to caution planters to be careful to purchase trees of Kieffer's hybrid, as well as all other new varieties of fruit, only of or through concerns of whose reliability they have no doubt. H. A. C.

Philadelphia, February 16, 1880.

The Kieffer Pear.



Above we give a cut of this pear, of which a correspondent writes on the preceding page. Mr. Meehan describes it in the *Gardener's Monthly* as having the leaves and general habit of the Chinese Sand Pear, the rich-glowing red cheek of a first-class Flemish Beauty, the delicious perfume of the Sand Pear, and the rich melting flesh of our best Garden Pears.

A Strawberry Protector.

Above we give a cut of Messrs. Ellwanger & Barry's new strawberry protector. It is made of wire, and when placed around the plants, just as the berries begin to set, supports them and keeps them free from sand and dirt, and enables the fruit to ripen up properly. The inventors especially recommend it as very convenient and useful for the Sharpless and other large varieties.

Pleasure Grounds and Greenhouse. March, 1880.

By W. D. Brackenridge, Florist and Nurseryman, Govanstown, Baltimore Co., Md.

Pleasure Grounds.

Lawns.—Those having an intention of making improvements, either in altering or beginning new work, should beforehand have their designs and materials prepared and at hand, so the grading, seeding-down and planting may be done as soon as the earth is in a friable condition. It will take about 30 lbs. of grass seed to sow an acre—to consist about equal parts of Red Top, White Top, Hard Fescue and sweet-scented vernal gra-s, to which add about 8 lbs. of White Clover seed. After sowing, pass a fine rake over it, and then the roller.

Pruning.—Every fine day should be taken advantage of, in order to have this work finished before the growing season commences, refraining from shortening back the shoots of such shrubs as Spiræa, Wigelia and Forsythia, as these produce their flowers on la-t year's wood; while such as Vitex Agnus-Castus, Mock Orange and Althæa, should be cut well back, as the flowers of these are born on the spring growths. Roses of the Hybrid Perpetual, China, Bourbon and Tea sorts ought to be pruned pretty close in to the old wood; while the Prairie and Noisette kinds should not be cut back so severely,—only shorten back the young shoots, and thin out some of the old wood; we often see this kind of work performed in a bungling manner with hedge shears; the best work is done with a good sharp knife and a pair of strong buckskin gloves. We are often pained to see trees on our streets and public parks mangled by a set of charlatans who foist themselves on the public as arboriculturists, to the tune of three or four dollars per day, but who really do not know the difference between a Lombardy Poplar and a Hickory tree. All the science of their pruning resolves itself into the axe and saw, which they ply on all sides of a tree with amazing dexterity.

Planting of deciduous trees and shrubs should be gone about so soon as the weather and ground are suitable. Never plant when the ground is wet, or put the tree deeper in the ground than it formerly stood in the nursery row or the wo ds; observing to cut off about as much of the wood in regulating the top as the root had suffered from the lifting. Young healthy trees, if carefully taken up, will soon outgrow those of a larger size, the check by mutilation being less in lifting.

We would advise that all herbaceous plants that have stood long in the ground, be now lifted and divided before planting anew.

In putting down Box edgings, dig and break the ground well on the line to be planted, then tread it firm, and bring the surface to a fair level; set your line, and then make a clean cut, which should stand a little towards the walk. Lay the Box so as to show 2 to 3 inches above the ground; after it is filled in tread firmly, as on this depends much of the success of what will follow.

Keep a good eye to the Tulip and Hyacinth beds planted last fall, and, so soon as the plants begin to make their appearance above ground, then remove a part of the covering so as to admit light and air, and when the weather becomes settled then remove the remainder of the covering, after which stir up the whole surface of the bed.

Where there are large clumps of shrubs growing close to each other, do not dig among such with the spade, as this will destroy many of the absorbing roots. Our plan is to top-dress with stable manure or rotten leaves, which brings the roots to the surface.

Greenhouse.

We now begin to feel the reviving influence of the more elevated and direct sun's rays, whereby plants, both under glass and out of doors, are stimulated into action. The cultivation of plants in a greenhouse or conservatory, being entirely artificial, requires a good deal of observation and manual aid, so as to imitate nature as closely as possible, for in her actions she is always true and consistent—never at fault. With her light, air, heat and water, she wields her never-failing sway over both the vegetable and animal kingdoms.

In order to secure room in the greenhouse, begin towards the end of the month to remove some of the more hardy and dwarf kinds of plants to cold-frames.

Keep on shifting the young Fuchsias as often as their pots are filled with roots, until you have got them into 6 or 8-inch sizes, in which they will flower well. Where very extra specimens are wanted, then place them in larger ones still.

Also pot off all rooted cuttings and seedlings, but do not commit the too-often-made mistake of surfeiting them at first with over-doses of water, as young plants, like babies, want to be treated prudently—the only difference between the two is the one nourishes from within, while the other receives its nourishment from without.

The effect of fire heat during the winter may have assisted in breeding mealy bugs and red spider; both of these are easily conquered by the free application of water by the syringe or water engine. Water applied in this way will also kill the Thrips,—a little black fly,—which delights to feed on the under surface of the leaves of Azaleas.

This is a very good time to inarch and graft Camellias. When grafting is practiced, the plants should be kept in a close humid atmosphere for a few weeks after the operation is performed.

Bring into heat all the Hyacinths in pots that were kept back from first batch. Start Chrysanthemums by cuttings, and divide the stools of such as you may want a large stock.

Planting Lawn Trees.

Messrs. Editors American Farmer:

I will give some suggestions which I hope may be of use to some of your readers who contemplate planting trees for shade about their houses during the coming spring. If I were starting a new place or a much-neglected old one, would recommend as the first thing to be done the plowing up of what is intended for the lawn, and working for at least one year in potatoes or any other hoed crop that would compel good cultivation.

The next thing to be done is to select what would be called *small trees*, say from four to six feet high, dig up carefully so as to secure as near all of the roots as possible. Trim off any superfluous limbs, and cut the ends of all mutilated roots smooth, so they will start fresh. We suppose, of course, that the lawn had been nicely cultivated and left with a smooth surface and free of clods and stone. Decide where the trees will do the most good, and at the same time cause the least obstruction to the various objects in sight from the dwelling; do not dig a hole to plant it, but place the tree on the surface, unless it has a tap root; if there be a very long one, it will be necessary to have a small hole for it deep enough to allow all of the lateral roots to be spread carefully on the surface. Now plant two strong stakes so they will not interfere with the roots, but at the same time hold the tree firmly in position; when tied to them, wrap the tree with an old rag to prevent chafing by the string. You are now ready to cover the roots, which should be done by carefully spreading fine rich earth all around the tree, (never use manure,) making what you would call a small mound with a tree in the middle; have the earth about 3 inches deep over all the roots, and about the same above the point reached on the body of the tree while in the nursery row. Now cover the surface all about the tree for about *double* the distance reached by the roots with *old hay or very coarse manure*, so thickly that the tree will never feel the want of rain, say six or eight inches. Never allow any of this to come in contact with the body of the tree, as it would be liable to injure the bark. Should there be any need of watering during the dry summer months, this heavy mulching will prevent the surface from getting hard, and will also make the good effect of the water felt much longer than if applied to the surface.

The next spring I would recommend removing all of the material used as a mulch, and carefully work over the entire surface for five or six feet from the root of the tree, and cover with some coarse manure from the stable, and pour water on it in dry times. The small mound will gradually disappear, and we will have a strong healthy tree, with its roots all near the surface, as they are always found in a state of nature. Trees will make much more growth for the first few years if grass is not allowed to grow near the root. But in all cases the *annual* top-dressing of the best manure to be found should be applied, not in a small ring about the trunk but out as far from the tree as it is high, as there is where the small roots are to be fed.

We have some American Elms and Silver Maples planted 20 years since, at that time less than six feet high and one inch in diameter, that are now 30 inches in diameter. THOS. J. LEA.

Montgomery Co., Md., Feb. 18, 1880.

THE MARYLAND HORTICULTRAL SOCIETY'S March show will be held on Thursday Evening, 4th inst., at the Academy of Music.

Noteworthy Plants.

Messrs. Editors American Farmer:

Jasminum Nudiflorum—This is a much neglected plant. Why so, I cannot tell. It is highly pleasing at all seasons, with graceful dark-green rush-like stems and small three-parted leaves,—blooming, as its name implies, before the young foliage appears. During any mild period, from December to March, it puts forth pretty yellow flowers, which glisten in the sun-light like beads of amber, and remind us more of the Flora of Siberia than of its native clime,—China. It adapts itself to almost any situation. A handsome shrub, with pendant branches, if planted on the lawn singly; it is admirably adapted for massing with other shrubs, as its dark foliage contrasts finely with them. It forms a fine screen if planted against a wire trellis. I remember having seen it thus in a small garden in Washington, where light posts were set at intervals of 8 or 10 feet, and three wires run on them. The plants may be set about four feet apart and fastened to the wires after the shoots reach the top of the trellis. They may be trimmed or allowed to continue their growth, when they will soon assume a pendant attitude, which is more pleasing than when stiffly cut.

Anyone who grows this plant, may, in winter like the past, wear a golden wreath all through the dark months.

Salisburia adiantifolia, or Ginko of the Japanese, is usually grown in tree form, and a handsome one it is. But few seem to be aware how patient it is under the pruning shears. I have seen it grown on the lawn, trimmed in conical form ten feet high and as wide as the base, as compact as an Arborvitæ, and of the richest green,—rivaling the grass. Some object to this shearing and consider it a relic of an obsolete style of gardening, and yet we think it quite as appropriate as many of the so-called ornaments of to-day.

Statuary, as we often see it *misused*, is a reflection on the intelligence (we will not misname it taste) of the 19th century. We have in our mind's eye instances of figures standing on an open lawn, with nothing to relieve, and small gardens in the city and surburbs *crowded* with statuary and vases. The latter are very appropriate if not too freely used, and properly placed; but statuary is only fit for places of considerable extent, where it can have a good mass of foliage in the back-ground, and should be in harmony with the architecture of the mansion. Rustic vases are much more in keeping with the prevailing style of villa residences than the vases of stone and iron which are so much in use.

Euonymus radicans, or Climbing Burning Bush. This, though not new, was very extensively advertised a few years ago; but still we see very little of it grown. We know of no prettier creeper than this, and, like the *Ivy* and *Ampelopsis*, it needs no fastening, as it attaches itself to bricks, boards or trees by its aerial roots, and, when well started, requires no further care. *Clematis* also seems to be met with rarely; perhaps the reason is that the florists often send out small plants which have been grafted on the common varieties grown for stocks, and it often happens that the young scion dies the first season. Such has been my experience to some extent. WM. FRASER.

Patterson Park, Feb. 24th, 1880.

Greenhouse Plants from Seed.

Messrs. Editors American Farmer:

On looking over the March number of the *Farmer* for 1879 I noticed an article written by W. G. Ivy, on raising greenhouse plants from seed, which I found very entertaining. And when I found that it had drawn out an article on the same subject in the April number from W. F. Massey, I thought that Mr. Ivy had done a good thing; better than he thought when writing it, because Mr. Massey gave some very valuable hints in regard to moisture while seeds are germinating and other matters pertaining to this delightful occupation. I have had some experience in raising greenhouse plants from seed, which has given me a great deal of pleasure and many disappointments; pleasure in watching the growth of the tiny leaves from their first appearance above the soil until they are large enough to handle, and also pleasure and instruction in watching how seeds of different kinds come up. Take for instance the Cyclamen, which will first throw up a little bulb, which will first lie on the top of the soil for several days before it shows a sign of a leaf. The Canna will throw up a blade in the same manner as corn, whilst the Geranium will first show a little light-green elbow; then the base of the Cotzledon leaves appear, and afterwards the tips, when it will very soon straighten up and thus begin the growth of a new plant.

My disappointments would come in different ways. Three or four years ago I bought some Geranium seed from a party who recommended them as being first-class bronze-leaved varieties, but, when they came up, not one plant proved to be such. How often this proves true of seeds; they will not come according to description. At another time, I went into the greenhouse in the morning and found that the mice had eaten off a nice lot of young Carnations during the night, and had also dug some Balsam seeds that I had sown the day before. I might multiply cases of disappointment, but will not tire your readers further on this subject.

Speaking of Cyclamens puts me in mind of a little experience I had with this beautiful flower. I had been told by a gardener to let the bulbs dry off when they were done flowering. I tried this plan several times, but they had such a bad habit of rotting whenever I started them in the fall that I gave up attempting to do anything with them, until four years ago I thought of raising some from seed, and, having good success with them, to keep them through the summer, I put a cold-frame under a tree, where they could get a little shade from the hot sun, and put them with some Begonias and other plants into it. I watered them occasionally to keep them from drying out; and where there were signs of a rain storm, I put a sash

over the frame, so that they would not get too much water. I do not claim this plan to be new; because I had just got it in working order when I saw it recommended by the editor, I think it was, of the *Gardener's Monthly*. I found it worked splendidly, for, in the fall, when I took them into the greenhouse, they had beautiful fresh green leaves and a nice set of buds on them, and, for two months or more, were the joy of the greenhouse.

In sowing all kinds of flower seeds, and, indeed, some kinds of vegetable seeds, in the greenhouse, I have found it a good plan, and one that I would freely recommend to amateurs, to put a piece of cloth (a piece of old calico that has been washed and used is best, as there is no starch in it) over the box after it has been filled with the soil, and sprinkle water on it from a fine rose and let it stand over night, then sow the seed and put the cloth on again, letting it remain until the seed show signs of germinating, when it should be taken off and placed near the glass, as recommended by Mr. Massey. Care must always be taken to keep the cloth moist, but not wet, and there will be little trouble about seeds not coming up, as the cloth hastens their germination.

Last year I kept a sort of a diary of the day of the month on which I sowed some of my seeds, both flower and vegetable, and the day they came up; and if you think it would interest your readers, I will make out a list and send it to you for publication. I would like to compare notes with some of them on this subject if they feel so disposed. [We shall be glad to have the list.—EDS.] JAMES HUNTER, JR.

Berkshire Co., Mass

Clematis and Roses.

Of trailing plants, the Clematis ranks amongst the most beautiful. The newer varieties produced in Europe by hybridizing are superb. They are nearly all climbers. Its favorite way to climb is over a pile of brush or a wire frame, and an oval or round bed has a most striking effect as it throws its flowers above the foliage. Some bloom on the old and some on the young wood, so a continuous bloom may be had from June to October. Jackmanii, a very floriferous variety, is of a brilliant blue color; Fair Rosamond, 6 inches in diameter, bluish white; John Gould Veitch, has double blue flowers. Lucis Lemoine is a very fine double white variety, resembling, sometimes, a white Camellia. Thomas Moore has large purple flowers, resembling a Passion Flower. There are about 75 varieties, including a scarlet variety from Texas; a color not known before among the Clematis.

Tea Roses.

These are the most sought for, as they give a continuous bloom from June till the frost kills them. Amongst the white sorts, Marie Guillot is one of the best;—white, with very large double imbricated flowers. Cornelia Cook is a strong robust grower, with very large flowers and beautiful in bud. Amongst the yellows, *Perle des Jardins* beats anything yet introduced, except Marshal Neil; it is one of the most floriferous varieties known, and, as it is not a climbing rose, everybody can have it, as it can be easily protected in winter. Some of the flowers are fully as large as a Marshal Neil, of a golden yellow color, with handsome dark foliage. Duchesse de Brabant is a beautiful shade of pink, a great bloomer, and hardy. La France, not strictly a Tea Rose, but a continuous bloomer, of a satin-rose color; its odor is the most delicious of the roses. Madam Camille is the largest salmon pink, and very sweet.

The above are a few of the many roses that can have a distinct character and are worthy a place in every garden. J. COOK.

Breisgau Fruit Farm, Baltimore Co.

Hanging Baskets and Vases.

Messrs. Editors American Farmer:

I gave you recently some hints on Ferneries and Wardian cases; and as hanging baskets and window vases are appreciated by many ladies, and are beautiful adjuncts to home embellishments, showing taste and refinement, I make suggestions on filling and caring for them:

The kind of hanging basket depends on the taste for the various kinds, and materials used are so great that the choice is as varied as fancy may desire. The first hanging baskets used (and many are still used) were made of wire; then the rustic basket was all the rage; and now those most used are made of terra-cotta ware, their diverse forms being very great, and I think that they will supersede all others, they having much to recommned them. They are made into many forms, such as rustic stumps, three-stick logs, and crooked logs, and in fact some are made to look so natural that they have been taken for sticks of wood dug out like an old canoe. They have this to recommend them above all the others: that they will last for a very long time, in fact a lifetime, provided they are not let fall. To avoid this, strong brass safety chains should be used by which to suspend them to any place where used. The great advantage of the wire basket is its extreme cheapness, but it is not a good basket to grow plants in, owing to the difficulty of keeping it sufficiently well watered for the success of the plants growing therein; and then it will not last over two years, the wire, unless very thick, rusting away in that time.

The "rustic" baskets are admirable for growing plants in, and look very pretty; but about the second year they, too, succumb to decay, and perhaps they are at their best in appearance, when down they drop from their place, and their beauty is scattered to the ground. There is, however, nothing to hinder a lady of taste to make her own basket every year if need be; all it wants is to make a box of any desired pattern, and tack on the outside any pieces of crooked and gnarled sticks, and you have as nice a basket as you, perhaps, could buy. In filling the baskets, to have complete success, be very particular about the draining of either a rustic or terra-cotta basket. The wire one has too much drainage, in fact it is all drain, and you can't keep it wet enough unless you let it soak for

about an hour in a tub of water every day; but if you use a rustic, or terra-cotta one, be sure that there is a large hole in the bottom, over which place a potsherd, then over this arrange a handful of smaller pieces, and on these place some moss or sphagnum, so that you are sure the soil will not get in to stop the drain. Upon this part of the operation being properly performed depends in a great measure your success. Now all you have to do is to fill up your basket with good soil. This consists of well-rotted turf from an old pasture-field, and well-rotted manure, and if too heavy add a little sand or leaf-mould. Then put in your plants and water well, so that all parts get thoroughly wet, and your work is done; and all you have to do is to wait a short time to see your labor grow into a "thing of beauty," which you know "is a joy forever;" and more particularly as you have done it yourself, and can boast of it to your friends.

But say you what shall I plant in my basket? There are some things more suitable than others, which I shall briefly enumerate; and as some are more adapted to vases than to baskets, I shall indicate such as I go along. I will mention that what I have said about the filling of a basket applies equally to the filling of a vase. Be particular about your drains, so that if you pour water on, and it should rain for a day or two at a time, or in heavy drenching showers, such as we have in summer, your vase will not become water-logged, and rot the roots of your plants, which it will do if the water is permitted to remain; and this is the principal cause of want of success in the management of vases and baskets.

Now for the centre of the basket there are many things that are easily obtained, such as Geraniums, Dracænas, Fuchsias, Coleus, any one of which will have a fine effect. Then you must have trailing plants for the outer edges, such as the Senecio Scandens, or as commonly called German or Parlor Ivy; Tradescantia, or "Wandering Jew," of which there are many varieties; Thunbergias; Torenias, which are so beautiful in summer; Othonna Crassifolia, with its starry-shaped golden blossoms in such profusion; Linaria Cymballaria, or Kenilworth Ivy, so well known; Cissus Discolor, the foliage of which is so beautiful; this, however, is best in partial shade; Manettia Cordifolia, a plant but too little used; and by the way there is nothing prettier for a vase or basket, it has such a profusion of flowers from July to frost. Then there are the Maurandias, always in bloom, and not forgetting the beautiful trailing plant, the Lysimachia Nummularia, or Moneywort, which is to be found in plenty in the fields around the farmers' houses, and the golden variety of which is so very attractive. There are many others that might be mentioned, but the above are enough to select from. They are all trailing plants, and to be put on the outside of a vase or basket. Now to mix with those the following plants, I would recommend as most suitable, those most suitable for a vase I have marked with an *

*Peristrophe Angustifolia Aureo, Saxifraga Fortunei, Panicum Variegatum, a beautiful variegated grass, does best in shade; *Lobelias; Reinekia Carnea Variegata; *Sedums, or Stone Crop; *Gnaphalium Lanatum, silvery foliage; *Agrostis glauca, a very pretty blue grass; Begonias, of sorts; *Abution Vexellarium Pictum; Ferns; Euonymus Radicans Variegata; and the beautiful Vincas, always in bloom. Lantanas make a basket or vase look very gay all the summer; this plant is but too little used; and for making either a bed of flowers or single plants, there is nothing more effective. There is one other plant for a vase or basket I must not forget, and that is Mesembryanthemum Cordifolium Variegatum (what a name!) Well, "Ice Plant" is shorter; and this plant is peculiarly adapted for vases and baskets, as the succulent character of the plant enables it to withstand the hot dry weather. Then there is the Mimulus moschatus or Musk plant; also fine, but must have more shade than the other. There are many others I might mention, but the above are enough to select from, and all of them are easily obtained, and at a very small cost, from most of the florists or plant growers. So I now close, but possibly you may hear again from

AN OLD FOGY.

Trucking Notes.

Cabbage Plants.

Messrs. Editors American Farmer:

As Mr. Watson, in your February number, asks the experience of others in the business, and as I can fully sympathize in his loss of cabbage plants, I willingly give mine. Our custom has been to sow Jersey Wakefield from the 1st to 12th of September in open ground, and plant on the east or south side of ridges any time from October to April; and I have often kept them for spring planting in hard winters with light covering until this year, when at the first frost in November nearly all the large growers here lost almost their entire stock of plants. I sowed 7 lbs. on 3d of September that *stood;* but 2 lbs. sowed six days later were almost entirely killed. I think the extreme heat of October, *keeping them tender*, was *certainly* the *cause*. I note that all injured plants have died since they were planted; in fact, at this date, the whole crop is exceedingly sick. Many who sowed at once in their frames have now a fair stock on hand. I shall not risk mine out until after the 20th March. Much of the sash formerly used for lettuce is now in cabbage. The loss has been severe from Norfolk to New York. I planted 21 acres, 20 inches in the rows, and although we sowed one pound under glass to replant, will not have enough. Last season fully one-half of our early cabbage went to seed in the spring instead of forming heads.

In a conversation with Mr. Peter Henderson on the subject, he thought it because of too early sowing, and advised not to sow until 15th of September; but I think it was from being so badly frozen during the winter and early spring,—the stalk in almost all cases in cutting for collards being black and decayed. I have noticed that German sprouts and even spinach always go to seed early, if badly injured in the winter.

Rotation of Crops.

Knowing from experience that it is useless to attempt to grow truck without heavy and continuous manuring, and feeling sensibly its *cost*, I fully agree with Mr. Massey as to the necessity of a second crop on our land always; so I will endeavor to give our practice: Part of our cabbage we stick after the second or third working with tomatoes in every other row, making the rows nearly five feet after the cabbage are off; and if a dry season they generally do well; if wet, they go too much to vines.

Part we plant in sugar corn in every row, about 1st June. Both go back to cabbage the same fall. Part goes to turnips, ruta bagas and spinach.

After peas we plant Savoy and Flat Dutch cabbage; after potatoes, sugar corn, millet or turnips; after lettuce, always potatoes.

Last season I planted 3 acres in strawberries, in April, working it the whole summer for next year's crop, and they now look pretty, but have taxed my patience heavily. This year I shall try small peas and strawberries together, running the rows 4½ or 5 feet for the peas, and strawberries in the centre, and if it is possible to keep the pea-pickers from tramping the strawberries I think it will succeed. I would ask if either of your intelligent correspondents have had any experience in forcing asparagus? Two years ago we planted a piece thickly for the purpose, 9 by 300 feet. It has made an enormous growth. Covered it early this fall about 5 inches with horse-manure, and now propose to cover with glass, using the manure for banking around the frames. Will it pay, is the part I would like to know, in competition with Southern grown?

I cannot close without noticing the quantity and quality of valuable matter in your last two numbers,—the papers of Messrs. Davis, Gorsuch, Massey, Watson, and others, being full of interest to the cultivators of Maryland soil.

THOS. B. TODD.

North Point, Md., February 14, 1880.

Growing Celery.

Messrs. Editors American Farmer:

A correspondent from Gordonsville, Va., wishes more information in regard to growing celery in beds. Most people around Baltimore are so familiar with this method that I forgot that in other sections there were other cultivators who were not acquainted with it. I have never seen this plan practiced out of Maryland, and suppose it to be one of those peculiarities of cultivation that has grown out of the experience of practical men as they learned the necessities of their climate and local circumstances. It will be hard to make anyone fully understand the details of this mode of cultivation, who has never seen it in practice, without the use of cuts, but I will endeavor to make it as plain as possible: I plant my celery in beds on the surface, five feet wide and of any length the ground will admit of. Between each bed a space of ten (10) feet is left for earth to fill in the beds. The plants are set in rows across the bed one foot apart and six to eight inches between the plants in the rows. Some cultivators make wider beds, but I find this width (eleven plants to the row) full wide enough, and indeed rather too wide for convenience in the last hillings. In planting we use boards one foot wide and in length equal to the width of the bed. On the edges of these boards are cut notches six inches or more apart. The planter sets this board square across the bed, and, standing on it, puts in a plant opposite every notch. The board is then turned over and the process repeated until the bed is planted. No further attention is needed, except keeping the beds clean until the earthing-up commences. Previous to beginning the earthing process the spaces between the beds must be thoroughly pulverized with plow and harrow, which must be repeated before each earthing. The earthing is accomplished by the use of two earthing boards and pegs. These boards are made about eight inches wide and about one foot longer than the width of the beds, about six inches at either end being tapered into a convenient handle. These boards are dressed perfectly smooth. With each pair of boards four stout pegs about eighteen inches long are needed. In earthing, two men stand facing each other on opposite sides of the bed; the boards are set on edge between the first row of plants, and the pegs stuck at the ends to hold them up off from the plants. The loose soil from the alleys is now thrown between the boards until they are full, when the men take the ends of the boards in their hands, draw the tops together with a few quick raps, and lift them out with a peculiar fling, leaving the soil in a sharp ridge between the rows of plants. This operation is repeated between every row in the bed. Other men follow after the hillers and draw the earth down around the plants by hand, being careful to keep the stalks drawn close together to keep them upright and to prevent the earth from getting into the hearts of the plants. When the first hill is drawn down to the plants the hillers go over the bed again and repeat the process with their boards; but the ridges are then left standing between the rows until it is imperatively necessary to draw in more earth to keep the stalks upright. This looks like a tedious operation, but the men get very expert in the use of the boards and it is very rapidly done.

I don't know that I have made this perfectly plain, but hope Mr. H. will ask further questions on any point he does not understand. The hillers must use proper care to carry up the earth square on the outside of the beds a foot beyond the ends of the rows. Celery that is to be used early in autumn I earth up as rapidly as possible, just keeping the leaves above the earth and the ridges between the rows on a level with the tops of the foliage; but that which is to be kept through winter I earth as slowly as possible until there is danger of hard freezing—say about the last of November,—by which time it should be entirely covered. As the weather grows colder I cover the beds with leaves and corn-stalks, so that we can dig it at any time.

Since writing the article in the February No. of the *Farmer* I have received a communication from my old foreman, Mr. Wm. Kirby, now a

successful florist and market gardener at Chestertown, Md., detailing a plan he has adopted in growing celery for market, with the results of which he is very much pleased. Mr. K. plants his celery one foot apart each way over the whole ground, keeps it thoroughly cultivated until late in November, but does not earth up at all. About the last of November he throws up beds say about four feet wide and nearly as high as the celery. These beds are made on any convenient high and dry spot. Through the centre of the bed he opens a trench to the bottom a foot wide. In this trench the celery is packed, roots downward and as close as possible. The sides of the beds slope from this trench. Boards are nailed edge to edge, like the roof of a house, and turned over the trench when filled, and as the weather gets cold rough manure is thrown over all. Mr. K. says he always lost a great deal of celery when he made his trenches in the natural surface of the soil, owing to the difficulty of draining; but that in these elevated trenches he loses none, and it all blanches white to the tips. This I believe to be a first-rate plan for winter celery, and I propose to try part of my planting thus the present season; but for early celery I know of no way superior to the bed system.

Messrs. Editors, you probably have a dose of celery now; (they say it is good for nervousness;) but our correspondents have thrown me off the track of what I intended to write this month, and as this is long enough I will say no more.

W. F. Massey.

Hampton Gardens, February 17, 1880.

In my last your printer makes me say that celery put in trenches is "*now*" to my taste better, &c. I wrote "not." On the next page, instead of "how '*more*' cultivating such high-priced land," made "how *men*, &c." Get your proof-reader to wipe his specs!

Cultivation of Tomatoes.

Messrs. Editors American Farmer:

I will give our method of raising "early and late tomatoes." We select a favorable location for our hot-beds, where shelter and sun are abundant; dig out the original soil to the depth of one foot, fill up with coarse horse-manure direct from the stable, so when well-tramped it will be six or eight inches in depth, then water and cover with fine mould to the depth of four inches. The time to sow the seed is from the latter part of February to the first of March, in drills four inches apart; the seed to be well covered, *but not too deep*. Then put the glass and mats on, keep covered three or four days, the seed in that time will have sprouted; then remove the mats, give them careful watching to prevent their growing too fast; govern the treatment by the weather, if very warm raise the sash and give them air, if cold keep the sash down. The leaves must be pinched off to make the plants stout and not shade each other. When large enough to transplant, prepare a second bed of good, rich ground, plant in rows four inches apart each way, give them careful watching, working, and fill up occasionally. From the 1st to the 10th of May we plant in the field; to be convenient for picking, lay the ground off for hills 3 ft. by 5 ft., manure with well-rotted manure in hills, and put a little fertilizer on top of manure. The plants must be kept well worked and hoed. In regard to "late tomatoes," sow the seed in the field from the latter part of March to the first of May in drills eighteen inches wide, the same as parsnips or beets are sowed; be careful not to cover too deep, plant out in field the same as early tomatoes.

Yours very respectfully,

Andrew J. Rogers.

Patapsco Neck, Balto. Co., Feb. 17, 1880.

Vegetable Garden—March.

On the 15th of January, I sowed, in a frame, cabbage, cauliflower, lettuce and celery, the last as a soup vegetable. A good covering at night, with sun heat and plenty of air by day, have made them nice stocky plants, and they will not be over a week later than those sown in autumn.

If onions are wanted large from seed they should be the first vegetable sown. Spinach must likewise go in early. There is some risk in sowing beet before the 15th, and but little advantage in sowing peas or anything else before that date. Level ground and rich soil should be chosen for *seed-beds*. I never use labels, but instead make a note of the order in which the various articles are sown, and take care to keep varieties of any particular vegetable apart, by sowing something else between them. Thus, my first seed-bed of last year, sown 28th of March, ran as follows: Parsley, Henderson's dwarf Celery, Leek, Golden dwarf Celery; Early French Carrot, London Red Celery, Carrot, Hood's Red Celery, Sage, Thyme, Asparagus. Doubtless cabbage plants could be raised at this early date with less risk of annoyance by the fly, but I have always been afraid that the plants would be too large by the middle of June. This, they say, will not be a fly year. I am reminded of a neighbor who always had cabbage plants, even when others had none; he sowed his onion and cabbage seed together, broadcast, in certain proportions, the object being to ward off the fly. The onions certainly did not suffer; I have never seen their equals,—like saucers every one of them. I made some allusion to them before as being sown on ground merely *scratched* with the plow.

Three hundred large loads from the night-cart go annually into my manure heaps, yet no one would ever suspect it, so well are they incorporated in the mass. Formerly this material was dumped by itself, under a covered shed, and it required some coaxing to get the men to remove it once or twice a year. I believe in the *rotation* of various kinds of manure, or else in their *thorough mixture*, which amounts to the same thing.

The importance of a good seed-bed was strikingly shown in a case that once came under my notice. Of a number of cottagers, located on brick-clay land, only one could make his garden flourish. He split the drills with a sharp instrument, dropped in a fine line, as it were, of

soft earth, and sowed his seed in it. Thus the plants were nursed until they were strong enough to take care of themselves.

Potatoes may be had a month earlier than usual, by planting in small squares of inverted sod, and forwarding in greenhouse or frame. They must be kept stocky by having plenty of light and air.

Mr. Massey has settled the question of raising and keeping celery to his own satisfaction, but I fear it is one of those troublesome things that will not stay settled. I cannot agree with your correspondent as to the comparative cost and labor of the two methods; my experience points all the other way. No more convincing proof of the superiority of the row and trench system need be mentioned than the fact that wherever that method prevails, growers are able to ship the article to distant cities (not forgetting Baltimore) at a good profit, whereas the profits from beds are too meagre to warrant much enterprise in that line. Celery lifted and stored is, with present experience, more difficult to keep than it is further North, but I see nothing to discourage the belief that we shall ultimately be nearly equally successful with those more favored. In the meantime sound advice would be to try both ways. Observation leads me to think that the best method of storing will be to set up two rows of boards on edge, ten inches apart, kept in place by stakes, and well banked up with earth. Place the celery between the boards and protect from frost. There being no *thorough-drained* land here, I can find no place sufficiently dry for a trench. Still, the celery in rows last year was more satisfactory in every way than that in beds.

Whilst the farmers around Boston, according to Mr. Gregory, have "to fight for stable manure at seven dollars per cord," the livery-stable folks in Baltimore are baling it and sending it out of the State.

It won't pay to use doubtful fertilizers when stable manure can be had at a moderate rate. I can see the good effects of bone here, but nothing discernable from various other fertilizers that have been used. JOHN WATSON.

Baltimore Co., Md.

Keeping Fruit.

At the recent meeting of the New Jersey Horticultural Society, one of the speakers said on this subject, that the future profit of pear-growing will depend not only on how cheaply they can be produced, but on our ability to keep them out of a full market. He was compelled to send loads to market last year that did not pay the expense of carriage. Such Anjous as were shown on the tables at this meeting would bring but $1 to $1.50 per bushel when picked; now $3.50 to $3.50. He believes they can and will be kept till April or May, and be in demand, and he hopes to keep them till that time next year. He kept Bartletts two months; but if kept at about 34 degrees, cannot see why they could not be kept six or eight months. It was thought that ice injured the quality of the fruit, but on tasting samples thus kept the quality seemed unimpaired.

Cultivation of the Oat Crop.

Messrs. Editors American Farmer:

In response to your request for an account of my oat crop of 1879, I send you the following statement:

Having 110 acres of corn-stubble ground to put in oats, I commenced plowing as soon as the ground was in order with three-horse plows, my experience being that two three-horse plows will do as much and better work in a day with less fatigue to the horses, and the saving of one man, than three two-horse plows.

When the plowing was well advanced I started a three-horse harrow, followed with the drill, seeding two bushels of oats to the acre; then the Thomas smoothing harrow to level the ground and tear to pieces the corn stools that had been brought to the surface, following with the roller to smooth the ground for the reaper, break the clods and compact the soil around the seed.

The plowing, harrowing, seeding and rolling were all completed on April 15th,—I having shifted the teams from one operation to another, as seemed most advantageous from day to day with the object of getting the seed into the freshly-turned soil as quickly as possible and before rain. I was greatly favored by the long dry spring, not having to stop work on account of rain more than two or three days.

The seed was a fine variety of white oats, weighing 34 lbs. to the bushel and grown in Michigan; cost in Baltimore 50 cents per bushel.

When the oats were ripe I started two side-delivery machines and followed in about thirty-six hours with a large force of men binding the oats in good-sized bundles and putting them up in large hand stacks, carefully capped; averaging twenty acres a day cut, bound and stacked.

Four days after finishing I commenced to thresh the first oats cut with a steam thresher placed at the barn so as to put the straw immediately under cover and where it would be required in winter for feeding, and hauling the oats to the thresher with two four-horse teams and three wagons, shifting the team to the empty wagon at the thresher from the loaded wagon just brought in, and keeping three men in the field all the time to load.

The result was 2,158 bushels, thresher's measure, (which was quite liberal) of bright, clean oats, weighing between 33 and 34 lbs per bushel from one field of forty acres, and about 2,500 bushels of oats not quite so heavy and clean from the other field of seventy acres.

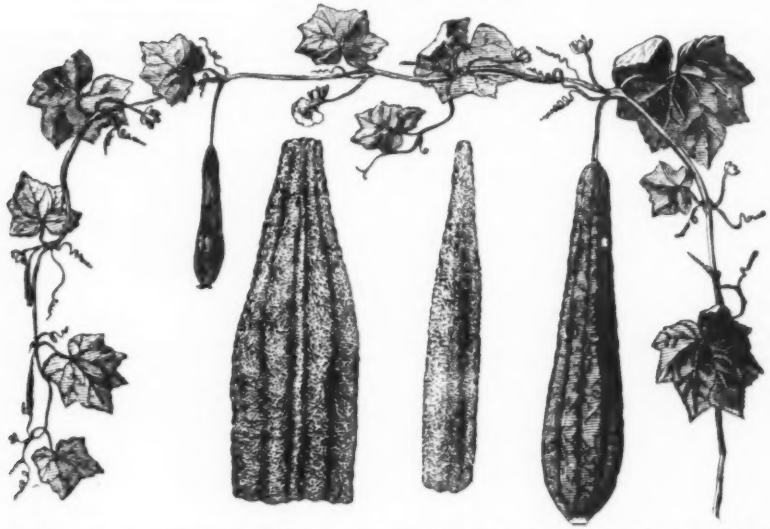
Neither field had been fertilized since they were set down to grass with the wheat crop some four or five years previous, and the sod had been turned under for the corn crop preceding this oat crop, with which no fertilizer was used.

I kept an accurate account of the cost of producing and marketing the crops, and would include it in this statement but I have mislaid my memoranda, and fear if I delay longer in sending this that you may not receive it in time to publish in the March number as you desired.

If you think it would be of interest to your readers, I will, with pleasure, endeavor to prepare it for the April number. [Please do.—*Ed.*]

Very truly yours, G. W. LURMAN.

The Dish-Cloth Gourd.



A year or two ago Mr. Andrew Reese, of Lutherville, Md., deposited at the exhibition of the Maryland Horticultural Society some specimens of an unusual vegetable, to which this name was affixed. In a recent number of *Vick's Magazine* we find this engraving of it, with the following account of this curious production:

It needs all the help you can give it, for it is natural to a Southern clime. We have received specimens of this fibrous cloth (from the inside of the gourds) from very many of our friends South, made into various fancy articles. A watch-case and a card-receiver are now before us, the latter doing duty as a holder of postage stamps.

Wonderful is the provision nature makes for the wants of man. This provision too is adapted to his varying necessities. What deliciously-refreshing fruits the traveler finds towards the tropics, just suited to his failing appetite, when even the sight of ordinary food would cause loathing. Wandering about the sea-washed coasts of Great Britain, steeped in fog, and inhaling the salt breezes of the ocean, with what contempt one would look upon bananas and other luscious fruits of warm climates, and what a relish one gets for the "roast beef of old England." In the absence of tin-peddlers how good it is to be able to furnish our own dippers, and even bottles and sap-buckets, from the gourds in the garden.

To come down to the subject: Dish-cloths, or rather their use, is pretty universal; and there is sometimes, we think, a good deal of anxiety felt on the subject by ladies. We have heard it said the less you know about the dish-cloths at hotels the better. That there should be no excuse for unclean dishes, nature has provided us with a vegetable dish-cloth. This strange cloth is the product of a gourd, the Papinjay, or sponge cucumber,—*Cucumis acutangulus*. It is a sponge-like cloth, in which the seed is enveloped, and ladies say answers the purpose better than anything yet prepared by art. The fruit is large,—some two feet in length,—and the vine of a rampant growth.

The engraving will give some idea of the appearance of the vine and the fruit, and also of the cloth-like substance formed in its center. The two central engravings show it as taken from the gourd and after being open for use. The gourd is a native of the East Indies.

COOKING CATTLE FOOD.—Prof. Caldwell says the profit in steaming fodder is still an open question. There is good reason for the belief it don't pay to steam good fodder, since it not only does not make fodder any more digestible, but even diminishes the digestibility of its most valuable constituents. For the same reason good fodder cannot be made out of poor fodder. If the office of steaming fodder is only to make poor fodder less distasteful, so that a large portion of the produce of the farm, which would otherwise be wasted, may be worked over into milk, meat and wool and manure, then he thinks we ought to determine by experiments whether simply cutting the fodder, moistening it with warm water and sprinkling a little meal and salt over it, will not serve the same purpose as steaming, with much less trouble and expense.

We believe that in this State the systematic cooking of feed has been almost universally abandoned, even by persons who have very effective and complete arrangements for the work.

Work for the Month—March.

Although the open winter has allowed much plowing and other work facilitating spring operations, the present is a time when every resource of the farmer is likely to be strained to the utmost by the fullest employment of teams and hands, and, we ought to add, of the thinking faculty as well.

Plowing.—As great a variety of opinion exists on this as on most other operations of farming, and the necessities of the individual case will be more apt to govern action than any specific rule as to the best time to perform it; but whenever done, no motive should be allowed to operate against its being done well and only at a time when the land is in suitable condition. Few instances could be found where the soil might not be advantageously deepened by bringing up from the subsoil a layer of an inch or so, to be mingled with the better soil of the surface. A sod turned under gives, by the decay of the vegetable matter, not only nutriment, but porosity and coolness, which the roots of corn and tobacco revel in.

Oats are all the better for early seeding when the land is in suitable plight. As a rule this crop is neither a favorite nor a profitable one in this section; but if a little better chance was given it the results would be more favorable. The land for it ought to be in good heart; and where the crop follows corn, and especially if clover is to be sown, it is advisable to put on a couple of hundred pounds of a good superphosphate.

Corn.—Preparations cannot begin too soon for this important crop, and plowing and getting out manure should be pushed vigorously forward. The corn plant will appropriate nutriment in a coarser form than some others can absorb.

Barley.—This grain also should be put in as early as may be, and the farmer will be rewarded for any extra pains taken in the preparation and fertilization of the soil. Land of a texture rather light seems best adapted to the crop, and there is no trouble likely to spring from applying an excess of manure.

Tobacco.—Making tobacco-beds must now be hurried up to a finish. Let each planter see that he aims for twice as many plants as he wants, as, in that way, he may have an abundance and some to spare. Hurry up stripping with all speed. Tobacco, upon the stalk, begins to deteriorate in May. Pay attention to sorting the leaves,—color and length must be strictly attended to. Throw the commonest tobacco out with the stalks for manure. Tobacco is certainly worth one dollar per hundred as manure. The commonest often does not clear that to the planter.

Potatoes.—That soil which contains a full share of vegetable matter, mixed with some sand, seems always to suit these tubers. Early planting is desirable, as giving better crops and tending in some measure to escape the bugs. Do not put on coarse green fermenting manures. Wood ashes, plaster, bone-dust and salt mixed make a good application. So does a superphosphate, and formerly Peruvian guano was thought to be the specific fertilizer for the crop. Choose smooth fair seed of at least average size, keep the soil mellow by early and frequent cultivation, and maintain a careful watch for the first crop of bugs, which have now lost the terrors of their early advent.

Clover Seed, if not sown already, may be at any time when the ground will permit. Rolling and harrowing are advantageous.

Orchard Grass.—Too much cannot be said in praise of this plant, but we refer to what was given last month.

Root Crops.—It is not too early to begin to make preparations for these secondary but nevertheless important crops to every farmer. A paper given elsewhere in this number from one of our most successful growers, giving details of his practice, leaves it unnecessary for us to dilate here upon their management. We give, as usual, a word of encouragement to every man who owns a herd or a single cow to raise a small crop of these adjuncts to the health of their cattle.

Manures.—Endeavor to keep your compost piles increasing at this season, even whilst you are carting out and spreading the manures already conditioned for use. Provide in ample season your supplies of commercial fertilizers, and do not wait to order them just as you begin to want to use them.

Live Stock.—March has usually been the most changeable and therefore the hardest month on all of our domestic animals. It is a very common practice with our farmers to begin the winter taking good care of, and feeding with a lavish hand, everything they own, and by the time the stormy spring arrives find they have a short allowance of feed, and that very often not of the best quality. All *work animals* ought to be in first-rate order now and able to do hard work every day that the weather is fit for them to be out. Examine all horse and mule collars; see that they are the proper size for each animal; never try to get another season's wear out of a collar that is worn out already. A first-rate collar will cost about two dollars, and a bad one may cause a serious gall that would make a horse unfit for use many days; so even in point of economy, leaving out the cruelty to animals, the new collar would be a good investment. Many of our best farmers make it a rule to have the shoulders of all work animals carefully washed with strong salt and water every noon and night. If done it should be done as soon as they stop work; that will have a tendency to harden the skin and prevent collar galls. The skin is much more tender and requires more care in spring than at any other time, caused by the animal shedding of the hair. One of the best and most serviceable collar-pads will be found to be a plain piece of leather, cut so as to keep in the proper place, as it will not retain the moisture as will be the case where the stuffed pads are used; such as come with a new collar from a saddler.

Sows that are expected to farrow soon should be placed in a pen alone at least two weeks before the pigs are expected, as they are

much more apt to do well when thoroughly settled in their quarters before the pigs come. Feed very moderately if she is in good order until the pigs are one week old, and then feed all she can eat, and of the best quality, till the pigs are weaned. Be careful about the bed. It is better to have too little straw than too much, and all pens used for a sow to litter in should be provided with a shelf about six inches wide all round the bed, and from six to eight inches from the floor, so that the sow will not be so apt to lie on the young pigs as soon as they are born. A *well-bred and quiet* sow will always do much better if watched closely about the time her labor begins, to see that the young are not chilled or mashed. But those who hold on to the old-fashioned *land sharks* had better keep as far away as the size of the farm will admit, till the young are a day or two old, as the sow will be apt to do great injury to the pigs in her efforts to defend them from the enemy. It is a good plan to have at least two sows pig at or near the same time, so that the pigs can be *divided* according to *size of sows*,—always remembering that when you wish to *add*, it must be done before her own pigs are over four days old, but those added can be ten days old with safety, but better only a few days old, as all pigs decide upon which place to occupy at the table very early in life, and then stick to it till they are weaned. In raising pigs always remember that six real good pigs will bring more money at weaning-time than eight or ten half-starved squealers that have never been well nourished since they were born. Do not kill any till they are five or six days old for fear something should happen that would reduce more than we wanted.

Remember that every day a pig fails to make a pound or more of pork, is one day wasted of his short life.

All sucking *Calves* should be provided with a low trough in which to place some nice bran or other suitable food so arranged that the cow could get it; the calf will thus early learn to eat, which will cause it to grow much faster than on milk alone. After a few weeks old they should have some fresh water given every day; also a little early-cut hay will be found an advantage.

Mares in Foal can be safely used till within a few days of the time they are expected to foal, but never overworked, and should not be used after the colt is born until it is a week old, and then not heated or allowed to go to the colt while she is the least warm.

The Orchard and Fruit-Garden.

If there are any trees in the apple or pear orchards, the fruit of which is inferior and unprofitable, a remedy is within easy reach of the owners of such, and is found in regrafting them with well-known and good kinds; and if the grafts have not already been secured they should, without further delay, be cut and tied carefully in bundles, marking the name of each kind upon a small, smooth slip of white pine, and sticking the same under the string used in tying the grafts; then pack in moist sawdust in a box and place in cellar until wanted; or, if such conveniences as cellar, sawdust, &c., are not at command, bury the cions in the ground, deep enough to escape any frost that may follow, and they will keep just as well as in any other way. The cutting and securing the grafts as above indicated gives greater latitude in the way of time for the performance of the operation of grafting. If delayed by the pressure of other important work until the trees are nearly in full leaf, success will still follow if the work is carefully done, though, as a rule, we would prefer having the work done in season, more especially with the cherry. By giving an hour or two to such work at the proper time, trees that are only "cumberers of the ground" may be brought into profit and usefulness; and as to the *art*, there is so little in it that almost anybody can graft successfully with a little practice,—the main points being to have the inner barks of the graft and the limb in which it is inserted on the same line, so that the sap ascending between the bark and wood of the limb may readily enter the same line of ascent in the graft; then cover well with a preparation of tallow, beeswax and rosin, in the proportion of one, two and four ounces in the order as named, melted together and applied (with a little paddle made for the purpose) carefully to every part of the wound, so as to exclude air and dampness; this done, and the operation is completed. We would suggest here, by way of caution to the inexperienced, that where the trees are large it is not advisable to cut off all of the tops at one time; better graft half the limbs one spring and leave the other half for the next year.

Where it is desirable to set new orchards or trees around the dwelling, the fine weather of this month should be taken advantage of, and such work attended to. Go to, or order *directly* from, some reliable nursery, and thereby save the additional cost of the travelling agent's expenses; besides which the risk of disappointment in varieties is avoided. The intelligent and experienced nurseryman is posted on the adaptability of different varieties of fruits to different soils and locations, and it is to his interest to give accurate and reliable information in this respect to his customers, to which matters he is careful to give proper consideration when filling orders given him in person or direct by mail. But when the agent, who has been selling for some "tree-dealer," perhaps, takes an order, by the time it finds its way to the nursery it is so weighed down and covered with solicitations for discounts in the price of the stock that the wishes of the purchaser are entirely obscured; and hence it is not to be wondered at that dissatisfaction is the rule in such transactions.

In the *fruit garden* attend to putting the soil in best condition previous to the setting of any new beds of small fruits; and if cuttings of currant, gooseberry or grape vines have been saved they can be set out any time during this month when weather and soil are suitable. Level the soil with rake or otherwise where it is intended for them to be placed; draw a line where the row is to stand; pat it with back of spade or shovel, so as to leave a mark when the

line is removed out of the way; then open with the spade a furrow, by driving the spade straight down on the line to a depth of six or eight inches, and, as the spade is removed, push the dirt to one side, leaving one side of the furrow perpendicular; set the cuttings therein straight, leaving the tops out slightly above the level; then fill in soil tightly around the base of cuttings first, following with a leveling of the soil around the cuttings, which should be placed three inches apart in the row. After trying many ways of "putting in" cuttings we have adopted the above, as the easiest, neatest and best.

The Poultry Yard.

By G. O. Brown, Montvue Poultry Yards, Brooklandville, Md.

What Our Correspondents Say.

My correspondence since the opening of the New Year has had an unusual number of lady writers, who are already, or just becoming, interested in poultry. Some of them have favored me with a statement of their profits, &c. One lady in Virginia writes: "The trio of white Leghorns I got from you about a year ago I succeeded with nicely. I raised 39, and sold seven of them for $14, and sold 30 dozen eggs for $6, and two sittings for $3. So you see I made $11, and have 35 nice ones left." This is a good showing for a first year's experience. I am certain these fowls received *attention*, and the very extra care that many would have considered "*too much* trouble" is the secret of this lady's *double* success.

Another lady also in the same State writes: "Through reading your articles in the *Farmer*, I was induced to make a venture in poultry raising, my health being poor; and since I have turned my attention to poultry, feeding and looking after them *myself*, my health has greatly improved. The out-door exercise was just what I needed; and besides being so beneficial to my health, I am glad to say I have realized a handsome profit on my flock."

A lady in this State informs me she "has been married *sixteen* years and has had *sixteen* children, and thinks the railroad and steamboat companies ought to give her a free pass for life." She is very fond of poultry, and wrote us concerning an incubator, as she is thinking of now turning her attention to chickens." A gentleman writes us that "he considers there is no breed of fowls equalling the Houdan. Would not sell mine for twice what I paid for them."

A sensible farmer writes: "I have been prejudiced against all kinds of 'fancy' stock, from horses down to chickens, but the scales fell from my eyes when Mr. ——— had eggs the entire winter while I had none. So I tried a little extra care with my poultry, and they did lay a little better, but nothing to compare with his. So one of the boys got some eggs from him, and the pullets commenced to lay when they were five months old, and have laid all this winter. The consequence was, I sent my common chickens to market, and as long as it costs no more to feed them that are a profit, I shall stick to them. I shall want two settings of Leghorns in May."

I can give a score of such extracts, all which give evidence of increased interest in poultry, and duly acknowledge there is profit in caring for fowls properly.

Hints for March.

Do not, unless you are *very* favorably situated, set your hens too early. Eggs that are collected now may be kept for some time if put away properly.

To Keep Eggs for Hatching.

Keep them with the *big* end down. Wrap them up in soft paper, stand them carefully on the big end in a box, and place them either in the cellar-way or on a swinging shelf in the cellar; do not sit the box on cellar floor. The reason why they *keep* better with the *big end down*, is that the air-bubble is in that end of the egg; and if placed in that position, the contents of the shell is continually pressing on the air-bubble and prevents its enlarging. I have kept eggs five weeks and hatched them.

To Prevent Egg-Eating by Hens.

See that the eggs are gathered on cold days often, before they freeze or burst open, which then tempts the hens to eat them; consequently a bad habit is formed that often proves hard to be rid of. If it occurs, give them two or three porcelain nest eggs, and make their nests in as dark a place as possible; if this does not break them use the *hatchet*.

Fix Up.

March is a good month to make a final overhauling of the coops, directing all necessary repairing, and, if needed, make additional ones, so that when the hens come off with their broods, you are prepared for them. All this may be done when it is too boisterous to work out.

Crushed Oyster-Shells.

While the ground is frozen hard, the fowl should have plenty of crushed oyster-shells. Coal ashes are also very good, and the fowls seem to delight in scratching and picking them over; besides, they take the place of road dirt to dust in, and do not contain any potash like wood ashes, to turn your yellow-legged chickens white.

Setting Eggs Early.

If you do it do not be too anxious and give the hens too many eggs in the nest. This month 8 to 10 are enough; and if more are placed under the hen, the outer ones get first chilled; they find their way to the centre of the nest, and the centre ones get on the outer edge, and in turn all get chilled, and a nest of addled eggs is the result. Bear in mind that all *white* eggs, in comparison with the dark or buff-colored eggs, are *thin*-shelled. So do not place under a big clumsy hen white eggs. Nature has provided thick shells for the Asiatics, and eggs from any of the varieties that lay white ones should never be placed under these heavy fowls.

Movable Nest-Boxes.

These should be in all hen-houses. A nest box 14 inches square is about the right size, and it should have cleats on the back to fit in a

groove that is placed against the sides of the house, about 3 feet from the floor, so that the nest can readily slide in and out, leaving it easy to clean. Nests should never be made stationary in a hen-house. Now is a good time to replenish the nesting material; first burn the old hay, &c., then put in new hay; never use straw, as grain which almost invariably attaches to some of the straw attracts fowls' attention, and start them to scratching, consequently destroying the nest.

Vary the Diet.

This season of the year, to get eggs from your breeders, their diet must be as numerous as possible. Pound up your beefsteak bones; cook the potato parings; in fact utilize all your table refuse for the poultry, and they will pay you back quickly with fresh eggs. During storms do not let the fowls stray around all day; keep them up, and scatter some fine grain among a lot of leaves in their house and let them hunt it out. G. O. B.

The Best Stock to Raise.

The Deer Creek Farmers' Club met at Mr. Wm. Munnikhuysen's on the 21st instant. The committee of inspection reported, saying that the general appearance of the farm had been improved since the last meeting there. Mr. Munnikhuysen's sheep, horses, hogs, &c., were fine. His stalk-ground wheat, upon which kainit had been used, was the best they had seen. Mr. Munnikhuysen stated that part of it had been drilled and part broadcast. The kainit had been mixed with bone and sowed all over the field broadcast. The drilled portion had a little more bone than the other, but the broadcast was better.

The question discussed was: "What is the best stock to raise, with a view to profit and increasing the productiveness of the farm?"

Wm. Munnikhuysen remarked that for beef purposes he preferred Short-horns. They grow larger and mofe rapidly than other cattle. He also preferred common sheep and a pure-blooded buck. Thoroughbred males of all kinds of stock should always be used, as we want the grades for profit. The nearer hogs are to thoroughbred the better. He liked Berkshire hogs. Cross-bred hogs are more roguish than the pure-bred. In breeding horses, mares of good size and a thoroughbred horse should be selected. There can be no profit without improvement.

Bennett H. Barnes said his experience did not accord with Mr. Munnikhuysen's, but he would choose better-bred females for horses or cattle. He preferred Short-horn cattle, but thought grades suited farmers better. There is more profit in sheep than almost anything else on a small farm.

Thomas Lochary said farmers ought to keep and raise all kinds of stock. His experience with sheep was small, but he had lost money on them. At the same time he did not think that was a criterion of the business. If four or five farmers in a neighborhood make money keeping sheep or raising any particular kind of stock, it was a proof that there was money in it. The more closely a man follows up any branch of farming, the greater his success.

James H. Ball thought farmers should raise a horse once in a while. It would also pay to raise calves. There is more profit in sheep than any other stock, and we should have more sheep and fewer dogs. There is also profit in raising hogs and making pork.

John Moores said that the best kind of stock a farmer could start out for the improvement of the farm, would be a crop of children. Success could be attained with any of the different varieties of cattle, but a farmer should stick to what he started with, whether Short-horns, Jerseys, Ayrshires or others. The selection might depend upon the quality of the farm. For rich land, he would prefer Short-horns. Every farmer might keep a few sheep, but we can't keep sheep and dogs. He raises Essex hogs, and killed 7,000 lbs. of pork this year. They are a quiet breed. When a hog becomes roguish it is because they are not well fed. There is not much profit in pork at less than 5 cents ℔ lb. The hog will convert as much straw into manure as any other stock, and it is excellent for grass.

R. John Rogers agreed with Mr. Munnikhuysen in regard to the cross of any stock except hogs. They should be as nearly pure-bred as possible. When crossed they appear to degenerate and become destructive. At long distances from market he thought butter-making a much easier way of sending produce than hauling hay, &c.

Wm. D. Lee thought that in breeding animals the male should always be superior to the female. There is little profit in hogs. The cattle should be those that mature earliest—the Durhams or grade Durhams. Devons do not attain their growth as early as Durhams. There is great profit in sheep. If you have large work mares it will pay occasionally to raise a colt.

Benj. Silver, Jr., believed in keeping as good stock as possible.

Wm. Webster thought the profits of the farm consisted more in stock than anything else. He advocated pure-bred stock from chickens up. In the latter he crosses game chickens of the different varieties, but all of them pure. Has thoroughbred Berkshire and Chester swine. He had crossed the Berkshire and Chester, but an equal number of pure Berkshire hogs, of the same age, and with the same attention, weighed 5 lbs. heavier when killed. He would buy ordinary sheep and a pure Southdown buck. If he had plenty of money, would prefer Cotswold ewes and a pure Southdown buck. The lambs would be larger and mature earlier. As a grazier he preferred Short-horns, and as nearly pure as possible. For horses he would breed to a thoroughbred. All stock added to the farm should be as nearly thoroughbred as could be obtained.

Judge Watters said farmers should keep every variety of stock on the farm, and the object should be to improve it. That can be done most cheaply and practically by the male. He favored thoroughbred hogs, and, as they are comparatively inexpensive and increase so rapidly, they are within the reach of every farmer. It requires a great deal of capital to get thoroughbred cattle; but by using tho-

roughbred males or as near as possble, the stock can be improved rapidly. In a short time grades can be obtained in this manner, that, for practical purposes, are equal to the thoroughbreds.

No cattle can compare with the Short-horn for grazing, but for the dairy some other is preferable. Farmers do not want thoroughbred horses for the turf, but a mixture of the thoroughbred is useful for working or driving. A man's circumstances must control the selection of stock. If the object is beef, butter or milk, that would determine the breed. Adopt the best breed for the purpose wanted. He should select game chickens, Berkshire hogs, Short-horn cattle and Southdown sheep. He would raise all these, and even horses. Sheep-raising cannot be made a specialty, but a few should be kept in connection with other things.

James Lee said Judge Watters came near his ideas in everything except sheep. He would buy ordinary sheep and use a Southdown buck It pays to use a Short-horn bull with any cows for grazing. Last year he sold yearling heifers for $25 apiece, and has this winter been offered $20 for last spring's calves. They were by a registered bull out of grade cows. It don't pay him to keep hogs, the difference in cost of keeping up fences amounting to the price of shoats so large that they cannot get through the fence.

Geo. E. Silver was opposed to Mr. Moores' idea of first stocking the farm with children. You can run a farm better without them for a few years—that is his observation, not his experience. He believed in keeping good stock. Has never kept exclusively thoroughbred hogs, but has handled Chester and Berkshire crossed. Had no serious objection to the cross. He preferred the Berkshire meat to any other, but did not think they had the same growth as the Chester. In sheep there is more money for farmers generally in buying good common sheep and using the best thoroughbred Southdown buck. In cattle, he preferred grade Short-horns for grazing purposes, and would breed cows to a thoroughbred bull. If he could get thoroughbred cows cheap would prefer them to grades. He liked Hereford cattle, and did not see why they are not generally introduced. Horses should be bred not for speed, but for size and strength. Would not breed common mares to common horses. For farming purposes exclusively, he preferred well-bred mules to horses. The mule will thrive on less and rougher provender than the horse. It would pay to raise mules here. Some farmers ought to make money by keeping thoroughbred bucks and ewes and selling buck lambs.

Silas B. Silver said that in sheep he would get the best common ewes, from two to four years old,—3 years preferred,—and, as a general thing, keep them only one year. At every shearing season the farmer himself should be present to select and mark those to be kept over. When sheared, you can better tell the condition of the ewe. Ewes, for breeding, should be thin. You can tell the value of the ewe by the growth of her lambs. He has 200 ewes, and, at this time, 50 pairs of twin lambs. He attributed the great number of twin lambs this year to the excellence of the grass last summer.

Thomas A. Hays favored keeping thoroughbred stock of all varieties, except horses. He prefers game chickens, which are hardy, the best to eat and fair layers, but not the best winter layers, very productive, hatch all their eggs and raise all their chickens. If he raised sheep would have a few pure Southdowns, and would try Cotswold ewes, making the Cotswold the main crop, for the wool.

Mr. Silver said he had tried Cotswolds, but found more profit in buying Southdown buck lambs and good common sheep. He would never cross a Southdown buck with Cotswold ewes.

Mr. Moores said he once wintered 65 Cotswolds and sold the lambs and 15 sheep for $743. He would have kept on but for the dogs. He considered them more profitable and as certain as any other kind.

Mr. Hays, resuming, said he had had grade Essex and Chester hogs, but they produced too much lard. The Essex is a nice domestic hog, but not so good as the Berkshire. It is the easiest to keep and does not require half as much feed as the coarse-boned Chester. Next he would take Short-horn cattle for general purposes. It is important to have a thoroughbred male and as high-bred female as possible, so as to improve the breed all the time. In horses it is important to have the mare of good size, to have large colts.

Wm. F. Hays expressed himself as in favor of thoroughbred stock for profit. A common calf will be worth $5 when a thoroughbred of the same age would be worth $50. He preferred game chickens and pure Berkshire hogs, but said he had seen good effects from crossing the Essex and Chester breeds. For sheep he favored the Cotswold ewes and Southdown buck, and had seen their lambs at nine weeks old sold for $5 a head. With that cross you get more meat as well as more wool. He also preferred Short-horn cattle, to keep in the stable, but they have a heavy rival in the Herefords in the pasture field. Short-horns are the best for beef cattle. Mr. Hays has a grade steer 20 months old that will weigh 1,280 lbs. He read an estimate showing that the cost of raising the animal was $50, and he was worth, crediting him with his improvement to the farm, only $72. He argued that the profit was too small. Some of the members pointed out that he had charged market prices for all the hay, corn, pasture, &c., the steer had eaten, and consequently the profit was really greater than was apparent by Mr. Hays' statement. Mr. Hays thought if the animal had been thoroughbred, the profit would have been greater. For the working stock of the farm he wanted mules, and would prefer raising mules rather than horses. A mule can be kept a year for $25, when it would cost $50 to keep a horse.

R. Harris Archer, the President, agreed with Mr. Lochary that when four out of five neighbors succeed with certain kinds of stock, it might safely be inferred that such stock will pay. Some members of the club found profit in raising horses, some in cattle, some in sheep,

and he himself had made hogs pay. Why could not every one succeed with all kinds of stock, if the proper principles were adopted? Farmers should diversify things and try all kinds of stock. He doubted whether thoroughbred hogs were any better than grades. The best he ever had were a cross of the Berkshire and common hogs. What is needed is care and attention. Mr. Archer mentioned the great change of opinion throughout the country, during the last few years, in relation to keeping sheep. Many more are kept than formerly.—*Harford Co. Ægis.*

Farmers' Hay Markets.

As will be seen by the proceedings in the Enterprise and Gunpowder Clubs, the propriety of establishing hay markets under the control of the farmers themselves, in Washington and Baltimore, is being discussed; and, in view of the probable change in the laws regulating the State scales, the following letter will be of interest:

I am glad to see that a spirit of independence is alive in many parts of our State, and I do not think the farmers of the several adjacent counties, that wagon their produce to Baltimore, could improve their condition as much in any other way, as by their united action in establishing a hay and produce market of their own, similar to the one that has been in operation in the city of Philadelphia for many years. This is known by the name of "The Farmers' Hay and Straw Market Association, of Philadelphia," and was incorporated in 1838. The stock of the association consisted originally of 1,200 shares,—par value $35. The lot is 175 by 430 feet. The original cost $45,000—$30,000 for hotel, paving and improvements of all sorts,—total cost $75,000. The restrictions were that no one but a farmer could purchase the stock or serve as a director, and no farmer was allowed to subscribe to more than one share. The object of this was to get as many interested as possible. But later any farmer could hold as many shares as he could pay for; but even then he was restricted to one vote, whatever number of shares he might own, and no votes by proxy allowed. This stock soon advanced to $70 per share, and paid 16 per cent. on the investment, and has been held so high that it is and has been out of the market for a long time. The charge to farmers for the use of this market is 30 cents per load for weighing, with the privilege of leaving his load in yard for six days under cover, of which there is room for about fifty loads. $1 is charged for staying all night, two meals and lodging. The hotel accommodations are of such a character that when the wealthy merchants of Philadelphia, some of them millionaires, want a good substantial farmer's dinner, they go there, knowing that they will get the worth of their money. This statement was gi en me by a practical farmer of Montgomery Co., Penna., who is thoroughly posted on the subject. He goes on to say, he does not know how the farmers could do without their market in Philadelphia. Now, I contend that the farmers of Maryland, who are already partially organized, and are co-operating to a considerable extent, are in a much better condition to establish a maket of their own in Baltimore in 1880, than those of Pennsylvania and Jersey were in 1838; and if they continue to let the scales hang over their eyes, and to be overridden by State laws, which inflict oppression to the agricultural class, that they have no one to blame but themselves.

Yours truly,

Montgomery Co., Md. ASA M. STABLER.

Poll Evil.

One of my carriage horses had "Poll Evil," (superficial,) caused, I think, by throwing herself violently about while attacked with a slight colic. There being no veterinary surgeon in this part of the county, I had to fall back upon my own resources. I treated her in the manner as directed in "Youatt on the Horse." I, of course, tried to get all the information upon the subject possible. I wrote to a merchant who resides in this county, who I heard had cured a horse of his which had the same complaint. He wrote me that he had tried everything and did everything men could do without effect, until he tried "kerosene oil," "common lamp oil," which he says worked a permanent cure after the horse had been affected for two years.

There may be some virtue in it. You may have an opportunity of testing it.

My impression is that the disease had been eradicated with some of the other remedies used; and applying the "kerosene oil" was like letting it alone, or rather letting nature assert her rights by ceasing to irritate the wound.

I give you the above for what it is worth.

Answer by Dr. Lemay.

Treating an old standing case of Poll Evil is a matter of some difficulty. It requires a surgical operation, which none but a qualified veterinary surgeon could perform correctly. A thorough examination must be made with the probe of all the fistulous, ulcers and sinuses. These must be freely opened to their very base, and the incisions made in such a direction as to allow a free exit of the pus from the abscess. As a dressing after the operation use carbolic acid solution, made from carbolic acid two ounces, and water one quart. Keep the fistulous and sinuses well open, and dress it three times a day with the solution. Freely use the knife, but no caustics. I am ignorant of any medicinal properties in kerosene oil for Poll Evil.

152 *Saratoga St.,* DAN'L LEMAY,
Baltimore, Md. *Veterinary Surgeon.*

Montgomery Co. Agricultural Society.

I send you a full list of the officers of the Montgomery County Agricultural Society for your excellent magazine. They are: President, Wm. S. Brooke; Vice-Presidents, Col. G. W. Dorsey, James A. Boyd, Isaac Young, Dr. E. E. Stonestreet, B. D. Palmer and R. Ross Perry; Secretary, Charles W. Prettyman; Treasurer, W. Veirs Bouic, Jr.; Executive Committee, John H. Gassaway, Joseph T. Bailey, Capt. J. McDonald, John E. Wilson and Charles F. Kirk. C. W. P.

Home Department.

The Price of those Morning Naps.

Not the extra allowance of sleep, that benefactor of his race, Dr. Hall, in his "Journal of Health," recommends to wives and mothers, and to admit of which he advises that the husband, when necessary, shall not only build the fire and put the kettle on, but shall also cook the breakfast and only call his wife when it is ready to eat. Such naps are legitimate and well earned.

It is of the self-indulgence of grown daughters in this respect that we we will endeavor to form a just estimate,—always bearing in mind that those known as society girls are not under consideration. Those within our province are supposed to be busy people, the welfare of whose households depends upon the individual efforts of each competent member thereof.

The grown daughters of such households, if of any account whatever, occupy a position of little less importance than that of the mother, and the acknowledged influence of the daughter frequently supersedes that of the mother,—a condition of things which may arise from the more strongly marked character of the daughter, or from a wish on the part of the mother to be screened from cares and responsibilities pertaining to the position. Such girls, however, are not likely to be caught napping when they are needed, and are usually a credit to themselves and a comfort to their parents.

Those most given to inconsiderate and selfish indulgence in the matter of morning naps are usually indifferent as to who takes the lead as long as they may have a good time in their own way; but the question is whether their good napping-time is not dearly bought,—whether they do not forfeit more than they gain.

It may be, and doubtless is at the time, a most delightful sensation to hear, without the obligation to heed, the rising or the breakfast bell, and still more so to have one's auricular powers so well disciplined that one does not need even to hear the summons; and also afterward when one has had all the satisfaction sleep affords, the deliberate wakening and leisurely performance of the duties of the toilet are luxurious compared with the more prompt and hurried course of those of the family upon whom the imperative devolves, for in every household somebody *must* heed the call, and somebody must hurry if there be a necessity for it, without the privilege of consulting their inclinations. If a twinge of conscience disturb the sublime serenity of the laggard, she composes herself with the thought that she will get her own breakfast when she wants it, and that her work can wait till she is ready to do it. You may rest assured that girl's duties are well defined; incidentals are not in her line.

The gain is simply that morning nap which implies liberty to disregard household rules and the comfort or convenience of others. The price of these privileges is not so easily computed. To begin with, there is that gentle twinging of a conscience which will assert itself now and then, and to answer which the delinquent's thoughts are not quite agreeably occupied. For self-justification she has sometimes to reason herself into the headache or backache, and the result is an inward shamefacedness, which makes the meeting with the rest of the family not quite so cheery as a timely one might have been. In her efforts to get her breakfast she probably annoys her mother, discomboberates the cook, and the unsatisfactory results cause her to feel herself a victim, with the rest of the household conspired against her.

With an injured air, and half her wits still dreaming, she proceeds to take up her end of the day's duties, which, if they have been left for her, stand out in bold relief,—surrounding ones having retired under the timely reign of those who heeded the morning call. She scarcely realizes that the busy ones who came before her have had her work in their way, and that the doing of her's now may be the undoing of much of theirs, because in housework there is so much dovetailing which defies chalk-line divisions and insists upon coöperation. Reluctant service is proverbially hard service, and duties which have to be performed out of time assume undue proportions. These facts, together with the lack of vim which her morning nap stole from her, cause the usual morning task to seem to our injured innocent unduly arduous. Such are a few of the prompt returns to the habitual napper for her morning's investment. Clearly to my mind it fails "to pay." There are, however, later fruits of this self-indulgence, resulting from a reaction of its effect upon other people, which she may be slow to recognize, but which she is none the less likely to reap.

No busy housewife, whether she is mother, stepmother, or in any sense a substitute for them, can look upon a member of her household who unnecessarily persists in disregarding family regulations in any other light than that of a cross, to be borne with such measure of patience as grace, temperament or other circumstances afford. A sense of injustice on her part being apt to manifest itself in her bearing toward the culprit, causes grievances to grow on both sides; to such an extent, oftentimes, that neither party remembers their origin.

The father is not always slow to perceive the daughter's selfishness when thus betrayed; and although more or less disposed to overlook it in proportion as his personal comfort is thereby interfered with, yet it enters into his general estimate of his daughter's worth or worthlessness.

The effect on the brothers and younger sisters of such indifference to the family welfare is of no small importance. Usually there are preparations for business or for school which require a thousand and one little services from somebody. If these have to be met with the one pair of hands already filled with ordinary duties, some of them will probably remain undone, to the annoyance of the sufferer. If in such a state of things crossness and bad words prevail, whose fault is it? and is it unnatural for thoughts of the idle hands folded in sleep to suggest themselves? Kindly dispositions on the part of the brothers, upon whom so much of the young lady's social pleasure probably de-

pends, are not apt to be developed under such habitual disregard of their home comforts.

The catalogue of consequences from the selfishness which makes such self-indulgence possible might be continued beyond your patience or mine: it is therefore best to keep within such limits.

If the lover of morning naps is so circumstanced that the indulgence must interfere with the rights and comforts of others, she will do well to consider seriously whether she can afford to make the inevitable sacrifice it is sure to cost her before giving herself over to so pernicious a habit. Should she wilfully persist in so doing, let her at least recognize, in the absence of confiding trustfulness and general loving kindness of those about her, the fruits of her own wilful perversity. If there is little excuse for such inconsideration at home, there is still less away from home. Girls wear out their welcome among their friends in that way oftener than they are aware of. Their companions of the household where they visit frequently encourage such disregard of family regulations to cover their own neglect of them; but that does not obviate the result, which is usually a less cordial welcome for the guest in the future.

Such a universal leaning as there seems to be toward these morning naps compels some degree of respect for them; and although not disposed to countenance them when they encroach upon the rights of other people, I am by no means uncompromising in regard to them. There are cases when they become a physical necessity, and nature demands this rest as sternly as she does the ordinary rest for all of us; and when from any cause one's usual rest has been interfered with, there seems to be no compensation more grateful than the extra morning sleep. This, when circumstances can be made to justify it, should, I think, be freely granted to our young people whenever they have given the usual hours of sleep to festivities or calls of duty; but such indulgence ought to make them conscientious about claiming it unnecessarily, and also make the occasion for them reasonably rare.

Another offset for what our young people may be disposed to regard as undue severity of judgment as to their favorite indulgence, is a plea I will offer for reasonable breakfast hours.—When there is no good reason for so doing, it is not only folly to insist upon the family eating their breakfast by lamplight, but it is a remnant of barbarism to do so. If for any reason the workingmen of the family *must* be thus acccommodated, let them learn, with careful provision for the purpose the night before, to get their own breakfast. It is not reasonable to require the whole family to conform to the extraordinary requirements of one member of it. Do let us get all the comfort in life consistent with plain duty; then there is no good in multiplying hardships unnecessarily. CERES.

WHEN you see a man digging a cellar in soil which you know is underlaid by hard-pan which retains soil moisture, and will entail consumption on children reared in its cold exhalations, go to him and implore him not to do it.

A Word of Cheer.

Messrs. Editors American Farmer:

In looking over one of the papers that come to us weekly, this verse attracted my attention and awakened my conscience:

"If your work is made more easy
By a friendly, helping hand,
Say so. Speak out bravely, truly,
Ere the darkness veil the land.
Should a brother workman dear
Falter for a word of cheer?"

And taking this text, and, applying it to myself, it occurred to me how often I had read and appreciated the articles in the home department, and had not said so. Of the many receipts there published that I had tested and found reliable, yet had never mentioned the fact. And of new trains of thoughts suggested by the articles from the gifted pen of Ceres, (may her shadow never be less,) and others, whose contributions I always look for upon the arrival of the *Farmer*, and yet had given no sign to that effect. We are not all equal to the task of writing an article that shall be instructive, and, at the same time, entertaining; for that is a heaven-born gift that is not distributed indiscriminately, and the good Lord will not expect us to develop a talent that he has never placed in our possession. Therefore, those of us who cannot *impart* must be content to *receive* instruction. But any one of us can "say so," if an article that was written expressly for our reading (as are the articles of the home department) meets with our approbation or "strikes a chord responsive." And although the consciousness of having done well may be sufficient reward to Ceres and others of the faithful, yet I venture to say they would be glad to know that the seed they had scattered had taken root by the wayside even. And, therefore, I send you this greeting as a sign and symbol, and a "say so," if you will allow the expression, of my entire appreciation of the home department of the *American Farmer*. CARRIE SNOW.

Health Papers.

BY MRS. J. B. MOORE BRISTOR.

Neither a child nor a grown person should look long and uninterruptedly at a book or paper. Ease the strain to which the eye is exposed by looking off now and then into the distance. Nature seems to teach children this, but how often they are reproved for looking off their task. Do not use the eyes for work directly after a meal, or when the body is tired; nor should this be done before breakfast or directly after bathing. Reading in railway carriages, cars, when walking, or riding, or lying down, or after going to bed, is highly injurious, though many do it for years without serious trouble. Do not hold your work closer than you need, nor stoop over it.

Eminent physicians assert that there is no better preventive of consumption in its earlier stages than the following simple process of inhaling. Stand in the out-door air on a dry day, perfectly erect, with head, shoulders and arms thrown back; close the lips firmly and slowly,

draw in through the nostrils all the fresh air you can without once opening the mouth; count at first to yourself twenty-five, fifty or one hundred seconds, and then, with the lips still tightly closed, cease inhaling, and, as slowly as possible, let the air which has been taken into the lungs be breathed out again. People pay hundreds of dollars for gymnastic apparatus, which benefits just through this inhalation, who would not think of standing in the outer air five minutes in the morning and five at night, and going through this simple exercise. The object is to expand the air-cells of the lungs by letting fresh air to them; their closing causes disease, short breathing, consumption. I have often been unable to sleep from pain and difficult respiration until I had practiced this inhaling ten minutes. Where lung trouble has begun, or is dreaded, cod-liver oil is the best known remedy, especially that which is pure from the cod, and not the seal, and contains a large proportion of iodine. Shoemaker's prepared Norwegian is said to contain a great deal of iodine; rub it also on the chest, putting a piece of brown paper and flannel over it. A relative has withstood organic disease of his lungs for five years by the free use of this remedy, and plenty of milk and cream. One or two newspapers folded over the flannel under vest are great protection against cold and damp. Fresh air is the great safeguard to all whose lungs are weak. Do not be afraid of it; it is a splendid tonic, worth all the pills, herbs and drugs ever compounded, and to a greater or less degree within the reach of all.

Philadelphia, February 1, 1880.

Valuable Recipes.

To preserve eggs dip each one into melted pork lard, rubbing it into the shell with the finger; then pack it in an old fig drum or butter firkin, setting every egg upright, with the small end downwards. Eggs thus prepared in August, directly after harvest, have been eaten with relish in the following January. Wood that is straight and solid is the most profitable to buy. A cord of small crooked sticks does not contain half the wood there is in a cord of straight and solid logs. In buying linen seek for that which has a round close thread, and is perfectly white; for if it is not white at first, it will never afterwards be so. Half an ounce of quick-lime put in nine quarts of water, and the clear solution put into a barrel of hard water, will make it soft. A teaspoonful of sal soda will soften three or four pails of hard water. To stop the squeaking of boots and shoes, boil linseed oil and saturate the soles with it thoroughly, A writer to a London magazine says he has only needed three pairs of boots (no shoes) in the last six years, and attributes it to the following treatment, by means of which he thinks those he has will last six years more: I put a pound of tallow and half a pound of rosin in a pot on the fire; when melted and mixed, I warm the boots and apply the hot stuff with a painter's brush, until neither the soles nor upper leathers will suck in any more. To give them a good polish at once, dissolve an ounce of beeswax in an ounce of spirits of turpentine, to which add a teaspoonful of lamp-black. A few days after the boots have been treated with the tallow and rosin, rub over them the wax and turpentine, but not before the fire. They will shine like a mirror. Tallow becomes rancid and rots the leather and stitching, but the rosin gives it an antiseptic quality which preserves the whole. Nothing probably adds more to the outward appearance of a house than fresh snowy window-sills kept in good order. But from their exposure to the weather, to rain and snow, no other part of the wood work is so soon destroyed or bare of paint. A good plan is to keep in your cupboard a pound can of Lucas' Philadelphia paint, ready for immediate use. It costs a few cents, and is ready to be applied at once by any housekeeper The action of winter storms often eats out hollows in sills, which, by a few timely touches of the brush, could have been avoided. To take out oil or grease from cloth, drop on the spot some oil of tartar, or salt of wormwood, which has been left in a damp place until it is fluid; at once wash the place with soft lukewarm water, then with cold, and the spot will disappear; this is a very valuable recipe. B.

Hygiene.

Colds—How to Cure.—A lady correspondent of one of our Western journals says:

At this season of the year, when so many are suffering from colds and coughs, I wonder how many resort to the simple remedy known as onion syrup? It has the advantage of being always at hand, and with us has ever been very efficacious.

Peel a few onions, and cut them in very thin slices; place some sugar in the bottom of a bowl, then a layer of onions; cover thickly with sugar, and so on, until the onions are all used. Cover the top well with sugar; place a plate over the bowl, and set away until a syrup is formed.

A teaspoonful or two every time the cough is troublesome, and on retiring at night, will nearly always break up the most obstinate cough. Turnips may be prepared in the same manner, and make a syrup equally valuable.

One runs a great risk in neglecting a cough, particularly where there is a predisposition to lung complaints; and many times a simple remedy taken in season will save one from a lingering illness, and, it may be, an early grave.

Certain rules should be constantly observed by those who wish to retain or improve their vision. They should avoid using their eyes when they are weak or inflamed, avoid reading small print, or looking long and often at minute objects; avoid sudden changes from darkness to light; avoid reading at twilight; avoid making great effort to secure a good view of any minute object; avoid holding a finely-printed book or very fine sewing near the eyes for any length of time, as girls often do, and so impair their sight for life. Young ladies should realize that short-sightedness impairs the attractiveness of expression, especially in conversation.

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BALTIMORE, MARCH 1, 1880.

Single Subscribers and Clubs.

We hope those who have not done so will forward as promptly as may be convenient their renewals; and such of our friends as have not yet completed their clubs are urged to make them up and send them in as early as possible. The present month is a good time to increase these lists, and there are few of our present readers who cannot add to our subscription list by a few words to their friends and neighbors in behalf of the *Old Farmer.*

Premiums.

Remember the handsome premiums offered for new subscribers, announced in our last.—There are several days open for competition for the first, and the second is open until April 10th. Some effort in promising localities would secure good returns for moderate activity and work. We wish competition was larger and more general, as the effects would be advantageous to all concerned.

Pleuro-Pneumonia in Maryland.

A committee has been appointed by the Agricultural Society of Baltimore County to memorialize the legislature to pass a law providing means for the suppression of this disease, and especially to place in the hands of the Governor authority for vigorous measures should it break out during the recess of the General Assembly.

Baltimore County (Md.) Farmers' Convention.

This meeting, held in the court-house at Towsontown, February 25th, was largely attended by many intelligent farmers of the county, drawn from all sections. Wilmot Johnson was made president; Saml. M. Price, Gustav W. Lurman, Rev. Jacob Shamburger, Col. D. M. Matthews and C. Howard Shipley, vice-presidents; and Wm. Fell Johnson and Wm. B. Sands, secretaries.

The intended programme included addresses and papers from gentlemen from the county and from abroad, and a discussion of a number of questions of general interest; but circumstances required some abbreviation. Doctor John W. Gadsden, an eminent veterinarian of Philadelphia, read an interesting and instructive paper on pleuro-pneumonia; Hon. W. G. Le Duc, U. S. Commissioner of Agriculture, delivered a lengthy address on sugar-making plants in the United States, with some digressions on the operations of his department; Saml. Eccles, Jr., Esq., read a paper on beet sugar and its manufacture; Prof. P. B. Wilson made a neat but short address on "Some adjuncts to a farmer's education;" and Col. W. Allan, principal of the McDonough Farm Institute, read a paper on agricultural experiment stations, their operations and benefits. Several papers prepared were not read on account of want of time, which also prevented the discussion of the questions set for debate. We shall hereafter probably give at length some of the papers and addresses.

The Agricultural College.

The newspapers report that an effort is again to be made in the legislature to discontinue the State's support of this institution, and the dominant party announces as its policy the withdrawal of all grants and subsidies to colleges with which the State has no "irrevocable contract." In the charter of this college the right is unequivocally reserved to the legislature to withdraw any part or all of the liberal endowment given it, and the same provision was made in bestowing the income from the United States land grant.

From the report of the trustees it appears that instead, as stated in our last issue, of an extra appropriation from the State of $1,000, besides relief from payment of taxes, the modest sum of $5,500 is asked for, besides the annual gratuity of over $13,000, which the college has heretofore received!

We have never been able to discern much originality in the operations of this institution, but we are compelled to give its managers credit for the fertility of their unremitting demands for extra bounties from the State, by whose liberality only it has all these years been able to be at all. In 1874 there was to be an "emigrant station and English colony" established on a gift (extra) of $5,000 a year. In 1876 the college building, the Rossburg house, &c., needed restoring; in 1878 it wanted $5,000 to buy improved stock, and $2,500 to establish an experiment station; and now it wants $1,000 to build a new stairway; $3,000 to build a barn, and $1,500 to *make experiments in agriculture!*

It might really seem that the trustees who make these perennial suggestions of its pressing needs, either do not know or ignore the very organic law of the institution; and the deficiencies which their clamor for State alms discloses, show that its contract with the State is not, and has never been, complied with. By its charter it was not only to be an Agricultural College, but a Model Farm and an Experiment Station besides.

In the charter, giving it $6,000 a year, it is provided there "shall be made annually a series of experiments upon the cultivation of cereal and other plants adapted to the latitude and climate of the State of Maryland, and cause to be carefully noticed upon the records of said institution the character of said experiments, the kind of soil upon which they were undertaken, the system of cultivation adopted, the state of the atmosphere, and all other particulars which may be necessary to a fair and complete understanding of the result of said experiments," * * * and also that "said Board of Trustees shall, at every session of the Legislature, present in printed pamphlet form a full and correct report of the said Agricultural College and Model Farm, and the condition or final results of all experiments undertaken as provided for in the foregoing section."

And the Act of 1865, giving it over $7,000 a year, requires that "the said college shall, in all respects, comply with the requirements of said Act, as to making and recording experiments, and reporting the same as therein prescribed."

Such experiments as are here provided for, and which might have been of great value to our farmers, have never been made, and no such report has ever been submitted; yet, with apparent boldness, though doubtless with some laughing in the sleeve, the demand is now made for additional gratuities to do, or pretend to do, what it was the original object in establishing the college to secure.

How successful is the "Model Farm" feature, is illustrated by the president's report. He says: (Dec. 4, 1879) "We have expended since Jan., 1878, * * * on the farm, $7,702.23. * * * This does not include the wages of the employes, of course;" and the offset to this for 1879 is the crops reported as follows:

"350 bushels rye, 850 bushels oats, 200 barrels of corn, 40 tons of hay, 300 bushels Irish potatoes, 75 bushels sweet potatoes, 150 bushels turnips, 10 bushels buckwheat and a full supply of vegetables. Pork put up, 3,025 pounds."

That is, for nearly $4,000 expended in one year, *not* including the wages of employes, this "Model Farm" gave a gross return of, say, $2,500!

The college has received yearly from the State $13,300; the average number of pupils is, we believe, less than 60, but that number would make the amount paid by the State for each, for the school-year of nine months, about $220, (for which sum private schools and colleges of higher grade than this would take, without State aid, such pupils as it gets.) Yet, receiving in addition to this a fee of $200 or $250 from each student, the president says: "With its present revenue the college *cannot possibly* pay the tax levied by the collector." (The italics are his own.) It is then safe to predict it can no more do in the future the things it is bound by law to do than it has done them in the past.

It is time this folly was amended or abandoned. The college has rendered no aid to the agriculture of the State. From the treasury of Maryland it has drawn over $250,000, and there is nothing to show for it. It has been all things by turns and nothing long. An emigrant station, a nautical school, a place for preparing boys for West Point and the Naval Academy, a military school,—it has had for years, and has now, nothing distinctly agricultural about it, and it has done no one thing to benefit our farmers. To them it has been a burden and a reproach. More than this, it has been an obstacle in their way. Whatever the agricultural class may ask, the liberal aid given this "agricultural institution" is flaunted in their faces as a reason why their requests should be rejected. When the farmers, two years ago, and again this year, asked for the establishment of an agricultural experiment station, to make scientific investigations and prosecute inquiries for the benefit of agriculture, as is done in other States and countries, to the immense profit of their agriculture, it was immediately retorted upon them by the organs and representatives of other classes: "You are getting your share; this work ought to be done at your Agricultural College." Perhaps it ought, but it never was and never will be!

It is vain for any to talk about reformation of this institution and its methods unless the State take control. This is not an auspicious season for the State to go further into the educational business. The college has for several years been managed by a close corporation, over which public sentiment has had little power. The farmers of the State can speak only through the legislature. In answer to their voice in 1876, that body, by a vote of about five to one, struck off the appropriations to the college, but it received the money notwithstanding. In 1878, by a vote in the House practically unanimous, the same thing was done; and the Hon. M. Blair, of Montgomery, was astute enough on this occasion to include in his motion a repeal of the section of the law giving the endowment. Its fortunes, however, were considered to be linked with those of the State Normal School; and by certain influences the House was constrained in harmonizing differences between it and the Senate, to recede from its action.

The legislature and the Governor concurring that there is no reason why the State should aid enterprises which ought to stand or fall on their own merits, the appropriations to county agricultural societies have all been discontinued. They were limited to $500 each a year, and there were probably not over ten counties having such societies. Yet we venture as our opinion that each one of these societies, when well managed, has done more to stimulate improvement, provoke emulation, enhance values, and promote agricultural advancement and prosperity, than has this so-called *agricultural* college during its whole career.

Fertilizer Advertisers.

John Q. A. Holloway advertises, in addition to his well-known "Excelsior" and Ammoniated Phosphate, Peruvian Guano of direct importation, containing 10 per cent. of ammonia.

Jno. S. Reese & Co. offer the Pacific Guano.

Baugh & Sons advertise Dissolved Bones, Ground Raw Bones, &c., and Sulphate of Ammonia and other chemicals for making fertilizers.

R. W. L. Rasin & Co. offer their established brands of Soluble Sea Island and Empire Guanoes, Dissolved Bone Phosphate, &c., and are prepared to make special compounds on orders.

Slingluff & Co. present their Dissolved Ground Bone, South American Bone Ash and South Carolina Phosphate, besides their Native and No. 1 Ammoniated Super-phosphates.

R. J. Baker & Co. offer Ground Raw Bone and pure fertilizers for mixtures.

Joshua Horner, Jr., & Co. advertise their Super-phosphate, Bone-Dust and Chemicals.

E. L. Coulson presents the claims of his Ground Bone and Bone Meal.

L. J. Warren invites attention to Lee's Prepared Agricultural Lime.

THE BELLE CITY FEED CUTTER, which is offered by Mr. A. G. Mott, possesses several new features, which contribute largely to its efficiency, and from an inspection of it we believe it to be not only very durable but of great capacity for work. It deserves an inspection.

WE call attention to the advertisement of Mr. Gregory, who is everywhere recognized as one of the most progressive of our American seed-growers and whose products have established an enviable reputation for themselves.

☞The cement advertised by W. W. Clarke, and made in this State, deserves attention from its valuable qualities. It gives, when mixed with equal parts of *lime* mortar, a hard stone-like surface, claimed to be perfectly damp-proof. It is very useful for lining cisterns, &c., and is being brought into extensive use.

☞An error occurred in Dr. S. T. Earle's advertisement of last month. The Leghorn cockerels he advertises are the *Rose-Combed*, and come from a celebrated strain.

☞By an oversight, the description of the Jersey bull on page 94 is crowded out. It will be given next month.

Contents of March No.

Baltimore Markets—March 1.

Breadstuffs.—*Flour*—We quote: Howard Street Super $4.75@5.25; do. do. Extra $5.75@6.25; do. do. Family $6.62@7.25; Western Super $4.75@5.25; do. Extra $5.75@6.25; do. Family $6.62@7.25; City Mills Super $4.75@5.25; do. Extra $5.50@6.25; do. do. Rio brands Extra $7.25@$7.50; Spring Wheat Family $6.50@7.00; Minnesota Patent $7.25@8.25; Patapsco Family $8.00; do. Extra $7.80; Chesapeake Extra $7.00; Orange Grove do. $7.40; Fine $4.00@4.25; Rye Flour $5.00; Corn Meal, City Mills, ₩ brl. $3.00; do. do., City Mills, ₩ 100 lbs. $1.30; do. do. Western, do. do. $1.25; Western Corn Chop $1.20.

Wheat.—We quote: Southern Fultz $1.40@1.45; do. long-berry $1.50@1.52; Western No. 2 red, spot $1.46; do. do. March $1.46@1.46¼; do. do. April $1.47¼@1.47¾; do. do. May $1.47@1.47¾.

Corn.—We quote: Southern white 59@62; do. yellow 54¼@55; Western steamer, spot 53¾; do. mixed do. 54¼; do do. March 53¾@53⅞; do. do. April 52¾@53; do. do. May 52½@52⅞; do. do. June 52½@53.

Oats.—Are quiet but firm. We quote: Western mixed 46@46½; do. bright 47@48; do. white 49; Southern 48@49; Pennsylvania 48@50.

Rye.—Good Maryland at 90 cts., and we quote good to prime at 90@97 cts. ₩ bus.

Seeds.—Clover is in fair request, but prices vary widely, the range for common to good being from 7¾ to 8¾ cts., but choice is jobbing at 9@9¼ cts. ₩ lb. Timothy, which is in pretty good demand, is steady at $3.10@$3.20 ₩ bus.

Provisions.—We quote as follows: Bulk Shoulders, packed, 5¼; do. L. C. Sides, do., new 7¼; do. C. R. Sides, do., do. 7½; Bacon Shoulders 5¾; do. C. R. Sides 8; do. Hams, sugar-cured 10@12; do. Shoulders, do. 6½; do. Breasts, do. 8; Lard, Refined, tierces 8¼; do. do. tubs 8½; Mess Pork, old, ₩ brl. $13.00; do. do., new, do. $13.25@$13.50.

Butter.—We report a strong and active market for choice fresh stock. We quote as follows, viz: New York State, choice selections, 28@30; do. do., dairies, 26@27; Western creamery, choice 35; do. tubs, choice fresh.

Eggs.—Fresh we still quote at 13@14 cts. ₩ dozen for both Western and near-by, with the receipts fair and market dull.

Hay and Straw.—We quote as follows: Hay—Choice Cecil County Timothy $19.00; Fair to prime Md. and Penna. Timothy $16.00@17.00; Mixed Hay $15.00@16.00; Clover Hay $14.00@15.00; Wheat Straw $9.00@10.00; Oat do. $14.00; Rye do. $18.00@19.00.

Cotton.—We quote spot cotton as follows: Middling 13; Low Middling 12¾; Strict Good Ordinary 12⅜; Good Ordinary 12¼.

Tobacco.—We quote: Maryland, inferior and frosted, $2.50@3; do. sound common $3.50; do. good do. $4@5; do. middling $6@8; do. good to fine red $8.50@10; do. fancy $11@15; do. ground leaves, new, $2.50@8; Virginia, common and good lugs, $3@5.50; do. common to medium leaf $6@8; do. fair to good leaf $8@10; do. selections $12@16; do. stems, common to fine, $1.50@2.

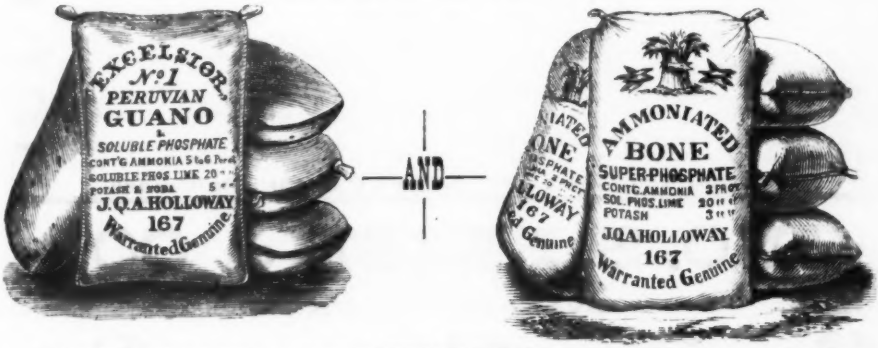
Live Stock.—*Beef Cattle*—We quote: Very best on sale this week 5@5¾ cts.; that generally rated first quality 4@5 cts.; medium or good fair quality 3@4 cts.; ordinary thin Steers, Oxen and Cows 2@2¾ cts.; extreme range of prices 2@5¾ cts.; most of the sales were from 4½@5¼ cts. *Swine*—We quote common rough Hogs, such as stags and sows, at 6@6¼ cts., and the better grades at 6¼@6¾ cts., with selections at 6¾—not many selling at the latter price. *Sheep*—With no outside demand, and that on the part of butchers quite limited, the market in all the yards is reported very dull. We quote common Sheep at 3@4 cts.; fair to good 5@5¾ cts.; good to extra, of which there are but few, 5¾@6¼ cts.; Lambs 5@6¼ cts.

To Tobacco Planters.

The undersigned, PIONEER in the manufacture of Fertilizers in this city, and ORIGINATOR in 1858 of the Formulas and processes of manufacture of

"Excelsior" and Ammoniated Phosphate,

So well and favorably known by the Agricultural public, relying upon his experience and personal reputation hitherto acquired in the uniform excellence of these Fertilizers, as manufactured by him, continues to offer them to the Farmers and Planters of Maryland and Virginia, with the assurance that the high standard quality of each will be maintained as heretofore.



The above are the most concentrated FERTILIZERS ever offered to the farmer—combining all the stimulating qualities of Peruvian Guano, and the ever-durable fertilizing properties of Bones, in fine, dry powder, prepared expressly for drilling,—and it is the universal opinion of the farmers of Maryland and Virginia, after over twenty years experience in the use of the EXCELSIOR manufactured by me, that an application of 100 pounds is equal in its effects to 200 pounds of any other Fertilizer or Guano, therefore fully 50 per cent. cheaper.

With my present advantages and superior facilities for manufacturing, I challenge competition with any Fertilizer sold in the United States, in Quality, Mechanical Condition and Price.

By strictly adhering to my Original Formulas, using only the most concentrated materials, and superintending in person their manufacture—as for the past twenty years—

Uniform Quality is Guaranteed.

☞Farmers, to secure the ONLY GENUINE EXCELSIOR and PHOSPHATE, prepared according to my Original Formulas established in 1858, should see that every Bag is branded as above, with the ANALYSIS and MY NAME IN RED LETTERS.

J. Q. A. HOLLOWAY,

Originator and Manufacturer,

107 McElderry's Wharf, Baltimore, Md.

My Annual Catalogue of Vegetable and Flower Seed for 1880, rich in engravings from photographs of the originals, will be sent **FREE** to all who apply. My old customers need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any Seed House in America, a large portion of which were grown on my six seed farms. *Full directions for cultivation on each package.* All seed *warranted to be both fresh and true to name;* so far, that should it prove otherwise, *I will refill the order gratis.* The original introducer of the Hubbard Squash, Phinney's Melon, Marblehead Cabbages, Mexican Corn, and scores of other vegetables. I invite the patronage of *all who are anxious to have their seed directly from the grower, fresh, true and of the very best strain.*

NEW VEGETABLES A SPECIALTY.
JAMES J. H. GREGORY, Marblehead, Mass.

John Saul's

CATALOGUE OF

New, Rare and Beautiful Plants

Will be ready in February, with a colored plate.

It is full in really good and beautiful Plants. New Dracenas—Goldeana, Princess Margaret, Fredericii, &c. New Crotons—Hamburganus, Earl of Derby, Williamsii, &c. A fine collection of East Indian and other Orchids, &c. New French and English Roses. A set of beautiful new Coleus. New Pelargoniums, new Oleanders, new Tuberous Begonias, new Dipledenas, new Loras, Fuchsias, Dahlias, Chrysanthemums, &c.

ROSES.

An immense stock of all the new and standard varieties grown in pots on own roots—CHEAP.

Fruit and Ornamental Trees.

New PEARS, new PEACHES, with a large stock of Pear, Apple, Peach, Plum, Cherries, (standards and dwarfs,) Grape Vines, Small Fruits, &c.

ORNAMENTAL TREES, in great variety, for Parks, Lawns, Gardens, &c. EVERGREENS of all sizes, of best quality and at the lowest rates. VEGETABLE SEEDS of the finest quality, fresh and pure, grown by myself or especially for me, or my importation.

FLOWER SEEDS.—Being extensively engaged in importing and growing new and rare plants, consequently my facilities for seed-saving are unequalled.

The following Catalogues, with others, now ready. Mailed Free:

No. 1.—A descriptive Catalogue of Fruit Trees.

No. 2.—A Catalogue of Garden, Agricultural and Flower Seed.

No. 5.—Descriptive Catalogue of a selection of Roses.

No. 6.—A Catalogue of New, Rare and Beautiful Plants, with a colored plate, free to customers; to others, 10 cents. A plain copy to all applicants free.

JOHN SAUL, Washington, D. C.

TREES ROSES SHRUBS

The largest and most Complete Stock of Fruit and Ornamental Trees in the U. S. Priced Catalogues sent as follows: No. 1, Fruits, (new ed.) with plate, 15 cts.; plain, 10 cts. No. 2, Ornamental Trees, etc., (new ed.) with plate, 25 cts.; plain, 15 cts. No. 3, Greenhouse, Free. No. 4, Wholesale, Free, and No. 5, Catalogue of Roses, with beautiful plate of New and Rare Roses, 10 cts.; plain, Free. No. 7, Catalogue of Strawberries, with plate, Free. Address,

ELLWANGER & BARRY, Rochester, N.Y.

THE

NURSERYMEN'S DIRECTORY

The undersigned have in preparation the

THIRD EDITION of the NURSERYMEN'S DIRECTORY,

Embracing a list of

NURSERYMEN, FLORISTS, SEEDSMEN, HORTICULTURAL IMPLEMENT MAKERS AND TREE DEALERS

of the United States. The work will be sold wholly by subscription, the price of which will be **Ten Dollars** per copy and will be issued early in 1880.

A limited space will be given to advertisements, at the following low rates:

Full Page	$35.00	One-Third Page	$15.00
Half Page	20.00	One-Fourth Page	10.00

One-Sixth Page, $8.00.

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D. W. SCOTT & CO.

Printers and Publishers,

CALENA, ILLINOIS.

☞ A few copies left of the edition of the Directory for 1877, at $5.00 per copy.

First-Class **TREES AND PLANTS**

at **very low** *rates. Apple Trees,* 15c.; *Standard Pear,* 30c.; *Dwarf Pear,* 2?c. *Strawberry, Raspberry, Blackberry and Grape Vines by the doz.,* 100, 1,000 or 10,000. Extra large stock *Sharpless, Miner's Prolific, Albany* and other choice standard *Strawberries. Queen-of-the-Market Raspberry.* Descriptive Price-List free. S. C. DECOU, Moorestown, Burlington Co., N. J.

FOR SALE!

Leghorn Cockerels, (C. F. Starr's Strain.)

EGGS in season from following stock:

Rose C. W. Leghorns,	$3 per 13.	(C. F. Starr's strain.)
Plymouth Rocks,	$2 " "	(Part Stoddard strain.)
Pekin Ducks,	$2 " 9	(Palmer strain.)

Saml. T. Earle, M. D.
Centreville, Queen Anne's Co., Md.

HIGH-BRED STOCK

23 Premiums at the Kent Co. (Md.) Fair and the Delaware State Fair, Dover, of 1879, on **Short-Horn Cattle, Berkshire Pigs, South-Down and Cotswold Sheep.** All ages for sale by

E. B. EMORY,
Centreville, Md.

Entered at the post-office at Baltimore at second-class rates.

SLINGLUFF & CO.'S

Chesapeake Chemical Works.

OFFICE, 155 W. Fayette Street. } BALTIMORE. { WORKS, Foot of Leadenhall St.

MANUFACTURERS AND MANIPULATORS OF

PHOSPHATES

We are now offering to the Trade the following WELL-KNOWN BRANDS OF GOODS, which we guarantee fully up to Standard:

SLINGLUFF'S

DISSOLVED GROUND BONE,

Containing 3 per cent. of Ammonia.

SLINGLUFF'S

Dissolved South American Bone Ash

Containing 40 to 44 per cent. Soluble Bone Phosphate.

SLINGLUFF'S

Dissolved South Carolina Phosphate

Containing 28 to 32 per cent. Soluble Bone Phosphate.

To meet the demand for a high-grade Fertilizer, we are offering **SLINGLUFF'S NATIVE SUPER-PHOSPHATE**—prepared entirely from Animal Bone—highly ammoniated.

Also, SLINGLUFF'S No. 1 AMMONIATED SUPER-PHOSPHATE. This we can confidently recommend as one of the best fertilizers sold in the market at a low price.

R. W. L. RASIN & CO.

MANUFACTURERS OF

Chemical Fertilizers

—) FOR (—

Cotton, Tobacco, Corn, Oats, Wheat, &c.

Works, SOUTH BALTIMORE.

Where they have introduced the MOST COMPLETE MACHINERY for compounding Concentrated Fertilizers, that their great experience has enabled them to so successfully introduce to the Planters of the Middle and Southern States.

SOLUBLE SEA ISLAND GUANO

So well-known and of UNDOUBTED EXCELLENCE.

EMPIRE GUANO

A High-Grade Fertilizer of KNOWN MERIT.

Dissolved Bone Phosphate

Prepared from GROUND ANIMAL BONES.

ACIDULATED SOUTH CAROLINA and NAVASSA PHOSPHATES

AMMONIATED ALKALINE PHOSPHATE,

A complete manure, endorsed by the Patrons, who have used it with great satisfaction for the last 5 years, and is on sale by Grange Agents at Baltimore, Richmond, Norfolk, Petersburg and Alexandria.

RAW and STEAMED BONES, POTASH SALTS,

And all Fertilizing Materials in Store and for Sale.

SPECIAL COMPOUNDS PREPARED ON ORDERS.

R. W. L. RASIN & CO.

S. W. Cor. SOUTH and WATER STREETS, BALTIMORE.